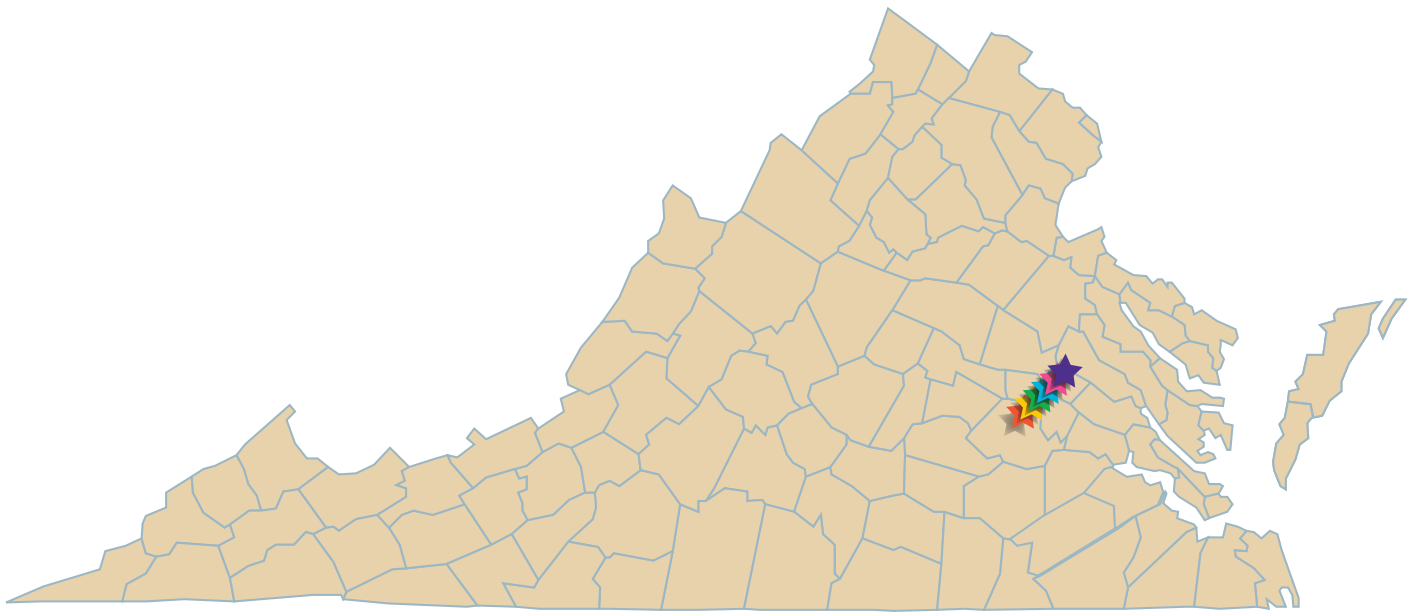
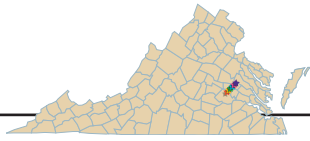


Community Profile of WIA X

City of Richmond





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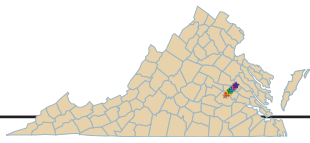
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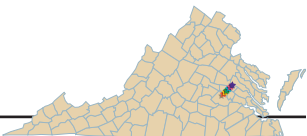
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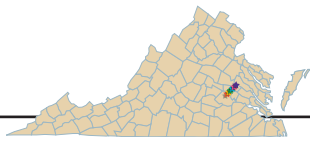


Executive Summary

This report provides a demographic, economic, and educational profile of Workforce Investment Area X (WIA X), City of Richmond. The purpose of these profiles is to assist on-going strategic planning efforts by providing a solid, data-driven, foundation for strategic decision-making. The primary findings from this report are:

- Between 2000 and 2010, WIA X will experience a major increase in its 55 and over population. The net result of this trend will be a significant “graying” of the overall population.
- One implication of this trend is that younger entry-level workers will be in short supply.
- WIA X is experiencing, and will likely continue to experience, increased employment in Services and Retail Trade.
- One implication of this is that the Service sector – specifically, health care and education – is expected to account for much of the demand for trained workers between 1998 and 2008.

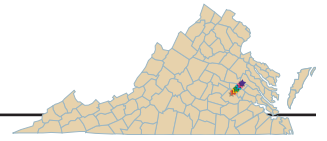


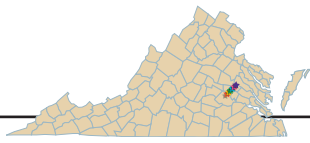


I. Introduction

This report provides a community profile of Workforce Investment Area X (WIA X). It was produced by the Virginia Employment Commission, with assistance from the Virginia Community College System and the Virginia Economic Development Partnership, at the request of the Special Advisor to the Governor for Workforce Development. It is intended to assist on-going strategic planning efforts within the Workforce Investment Boards by providing a solid, data-driven, foundation for strategic decision-making.

The report is divided into four major sections. The first contains a profile of regional demographic characteristics and trends, the second supplies similar information for the regional economy, and the third provides a profile of regional education characteristics and projected demands for training and skills. These are followed by a summary and conclusion section.

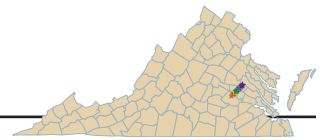




II. Demographic Profile

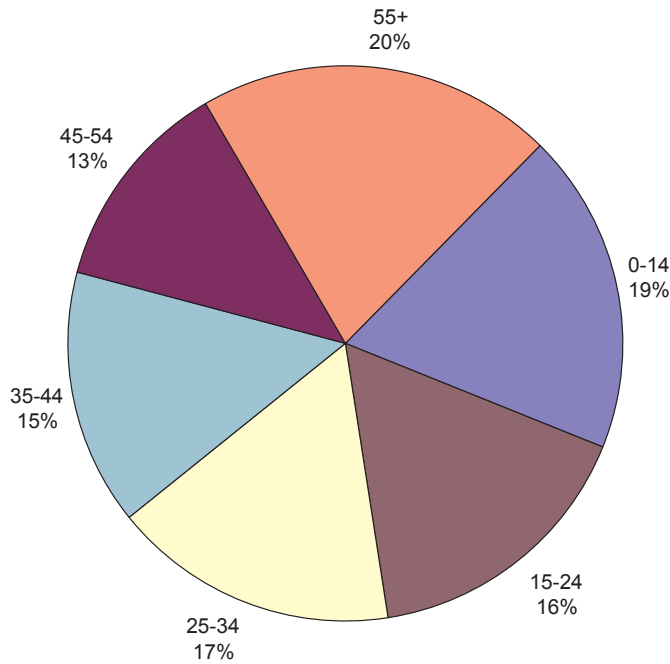
Population demographics are the single most important factor affecting WIA X's future labor force. Some key features of the area's population are as follows:

- Larger proportion of minorities. Where statewide minorities comprise 28 percent of the overall population, in WIA X they comprise 62 percent of the population.
- Projected to decrease by 6,190 persons (or 3.1 percent) between 2000 and 2010.
- Smaller proportion of individuals who "speak English less than well". Where statewide the proportion of individuals five and older who speak English less than well is 2.2 percent, in WIA X it is 1.5 percent.
- WIA X is a net importer of workers. 105,469 individuals commute into WIA X for work, while 37,390 of the area's residents commute to localities outside of WIA X for work.

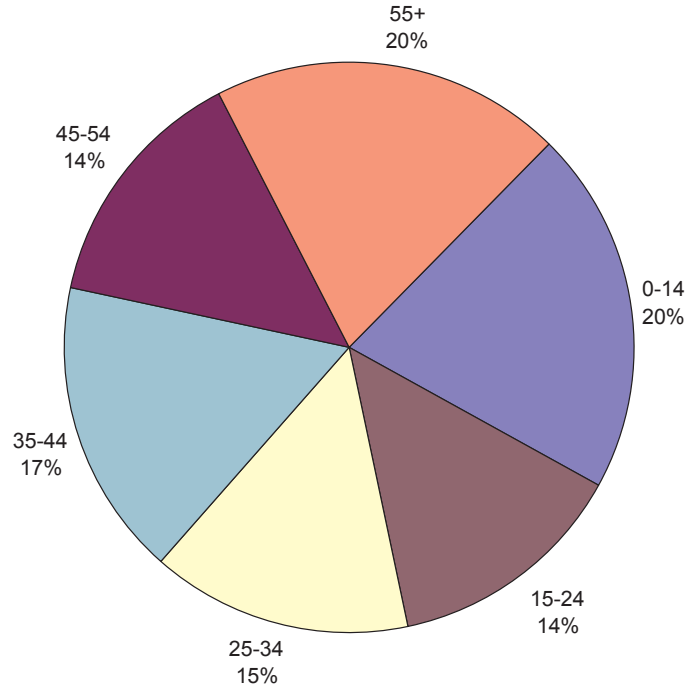


Population by Age Cohort

WIA X



Virginia



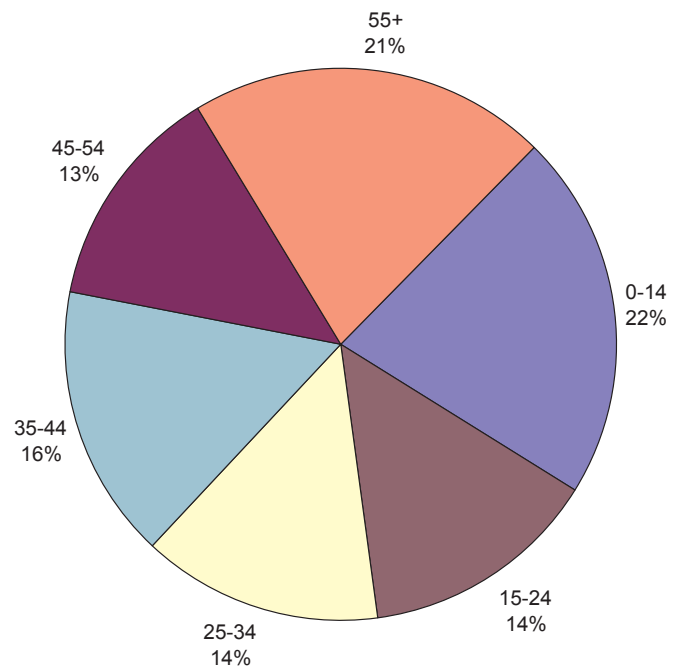
WIA X

| | |
|--------------|----------------|
| 0-14 | 36,854 |
| 15-24 | 32,256 |
| 25-34 | 32,871 |
| 35-44 | 29,841 |
| 45-54 | 24,985 |
| 55+ | 40,983 |
| Total | 197,790 |

Virginia

| | |
|--------------|------------------|
| 0-14 | 1,453,452 |
| 15-24 | 963,469 |
| 25-34 | 1,036,911 |
| 35-44 | 1,200,950 |
| 45-54 | 999,548 |
| 55+ | 1,424,169 |
| Total | 7,078,494 |

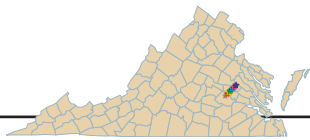
United States



United States

| | |
|--------------|--------------------|
| 0-14 | 60,253,375 |
| 15-24 | 39,183,890 |
| 25-34 | 39,891,724 |
| 35-44 | 45,148,527 |
| 45-54 | 37,677,952 |
| 55+ | 59,266,437 |
| Total | 281,421,906 |

Subparts may not add to total due to rounding.
Source: 2000 Census.

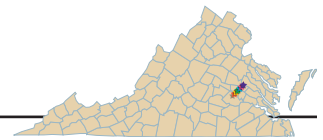


Population by Race/Ethnicity

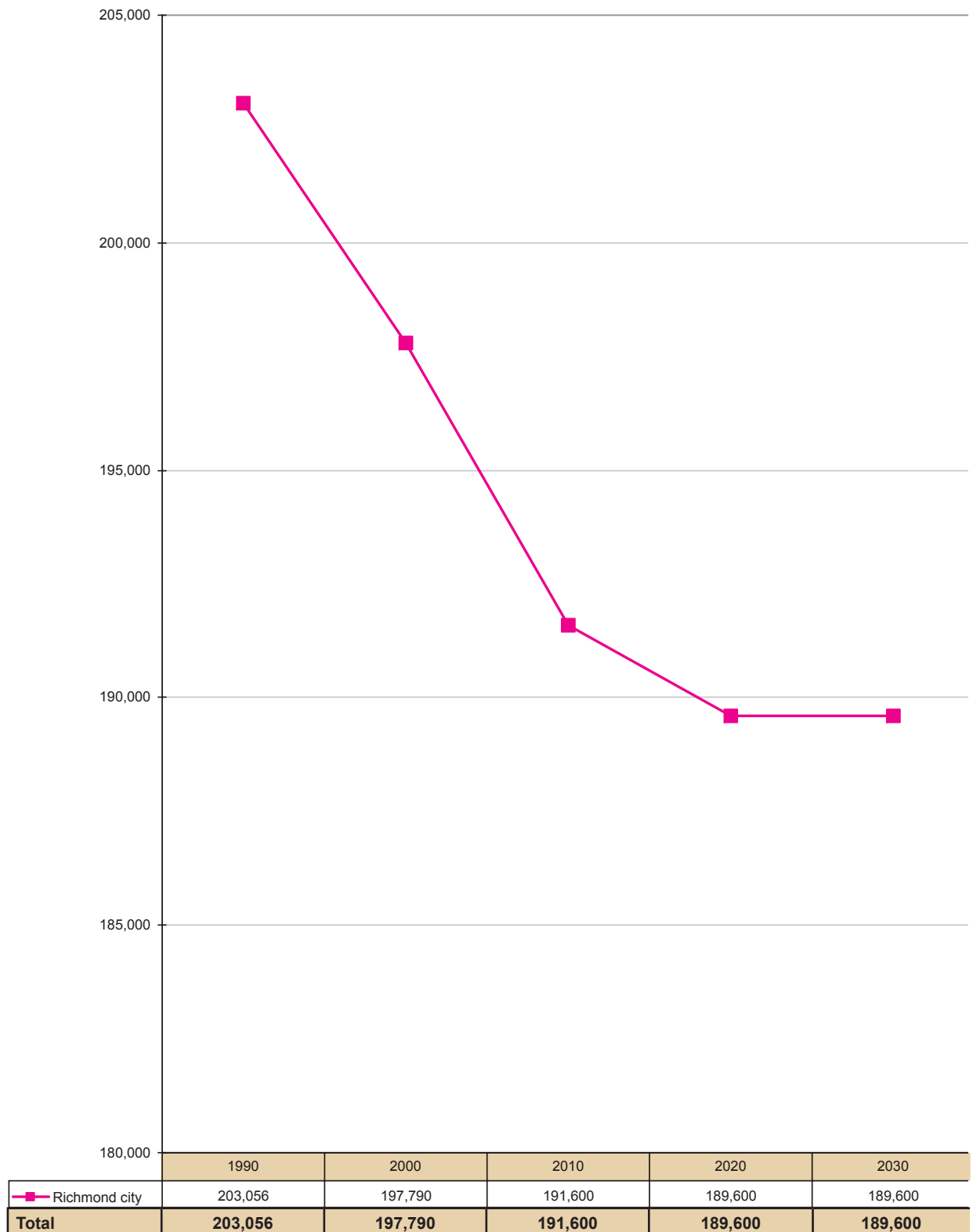
| WIA X | | |
|--|---------|--------|
| Total Population | 197,790 | 100.0% |
| Race | | |
| White | 75,744 | 38.3% |
| Black or African American | 113,108 | 57.2% |
| American Indian and Alaska Native | 479 | 0.2% |
| Asian | 2,471 | 1.2% |
| Native Hawaiian and Other Pacific Islander | 157 | 0.1% |
| Other and Multi-Race | 5,831 | 2.9% |
| Ethnicity | | |
| Hispanic or Latino (of any race) | 5,074 | 2.6% |

| Virginia | | |
|--|-----------|--------|
| Total Population | 7,078,515 | 100.0% |
| Race | | |
| White | 5,120,110 | 72.3% |
| Black or African American | 1,390,293 | 19.6% |
| American Indian and Alaska Native | 21,172 | 0.3% |
| Asian | 261,025 | 3.7% |
| Native Hawaiian and Other Pacific Islander | 3,946 | 0.1% |
| Other and Multi-Race | 281,969 | 4.0% |
| Ethnicity | | |
| Hispanic or Latino (of any race) | 329,540 | 4.7% |

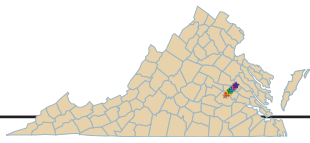
| United States | | |
|--|-------------|--------|
| Total population | 281,421,906 | 100.0% |
| Race | | |
| One race | 274,595,678 | 97.6% |
| White | 211,460,626 | 75.1% |
| Black or African American | 34,658,190 | 12.3% |
| American Indian and Alaska Native | 2,475,956 | 0.9% |
| Asian | 10,242,998 | 3.6% |
| Native Hawaiian and Other Pacific Islander | 398,835 | 0.1% |
| Other and Multi-Race | 22,185,301 | 7.9% |
| Ethnicity | | |
| Hispanic or Latino (of any race) | 35,305,818 | 12.5% |



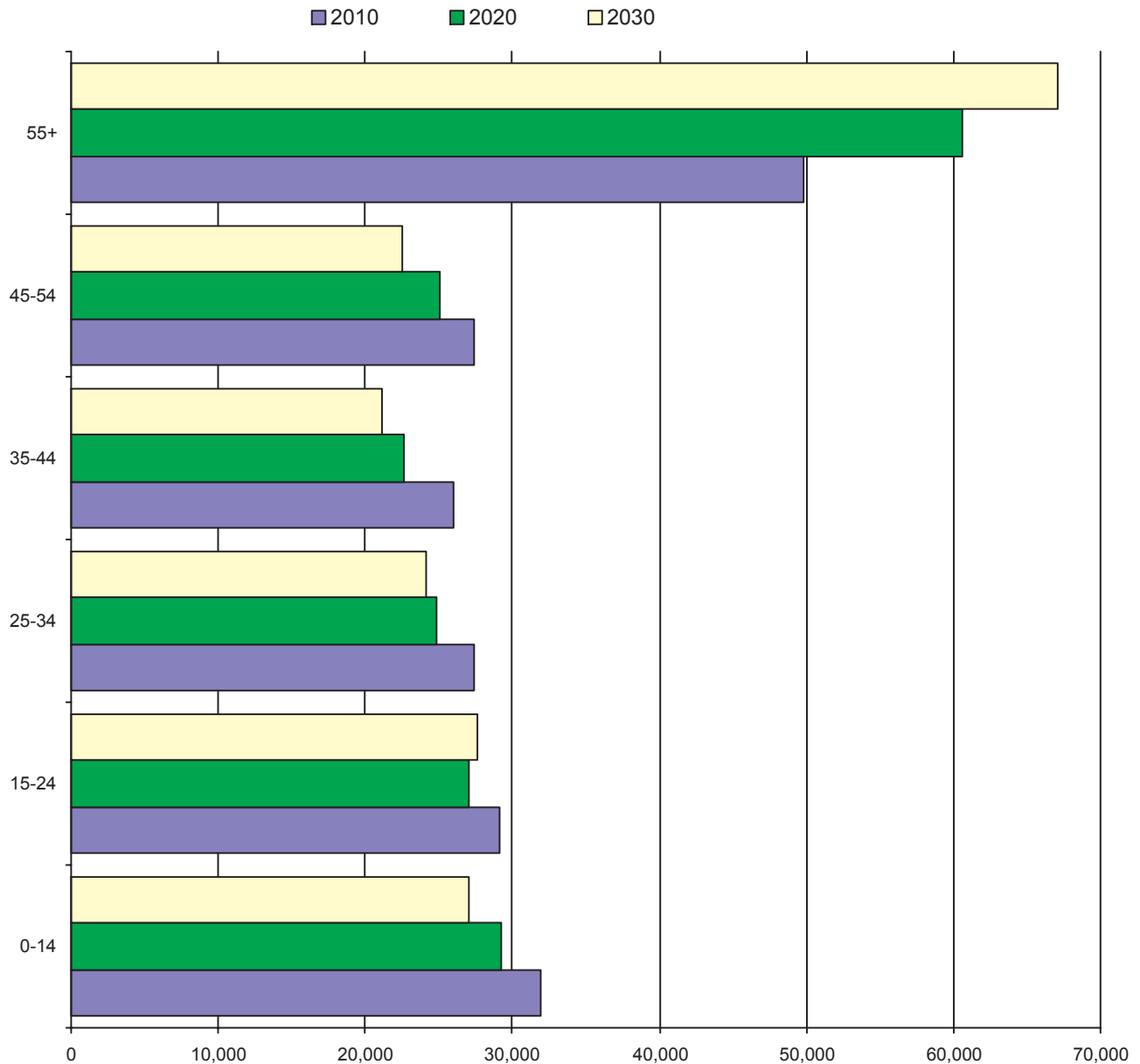
Population Change



Data for 2010 - 2030 are projections. Subparts may not add to total due to rounding.
Source: Virginia Employment Commission, 08/03, U.S. Census Bureau.



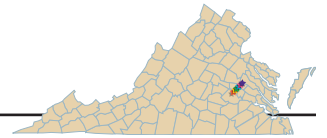
Population Projections by Age Cohort



| | 2010 | 2020 | 2030 |
|--------------|----------------|----------------|----------------|
| 0-14 | 31,965 | 29,306 | 27,097 |
| 15-24 | 29,085 | 27,078 | 27,630 |
| 25-34 | 27,366 | 24,898 | 24,183 |
| 35-44 | 26,048 | 22,673 | 21,141 |
| 45-54 | 27,346 | 25,104 | 22,482 |
| 55+ | 49,790 | 60,541 | 67,067 |
| Total | 191,600 | 189,600 | 189,600 |

Subparts may not add to total due to rounding.

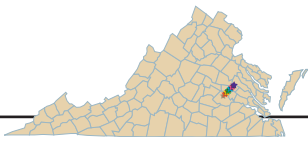
Source: Virginia Employment Commission.



English Language Skills

(Age 5 and over)

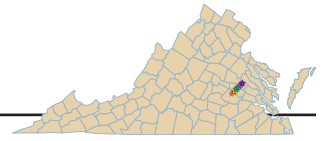
| WIA X | | |
|--|------------------|------------------------------|
| | Total | Speak English less than well |
| Richmond city | 185,379 | 2,701 |
| WIA X | 185,379 | 2,701 |
| Virginia | 6,619,266 | 143,865 |
| <i>Percent of Individuals who speak English less than well</i> | | |
| Virginia | 2.17% | |
| WIA X | 1.46% | |

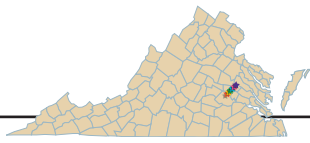


III. Economic Profile

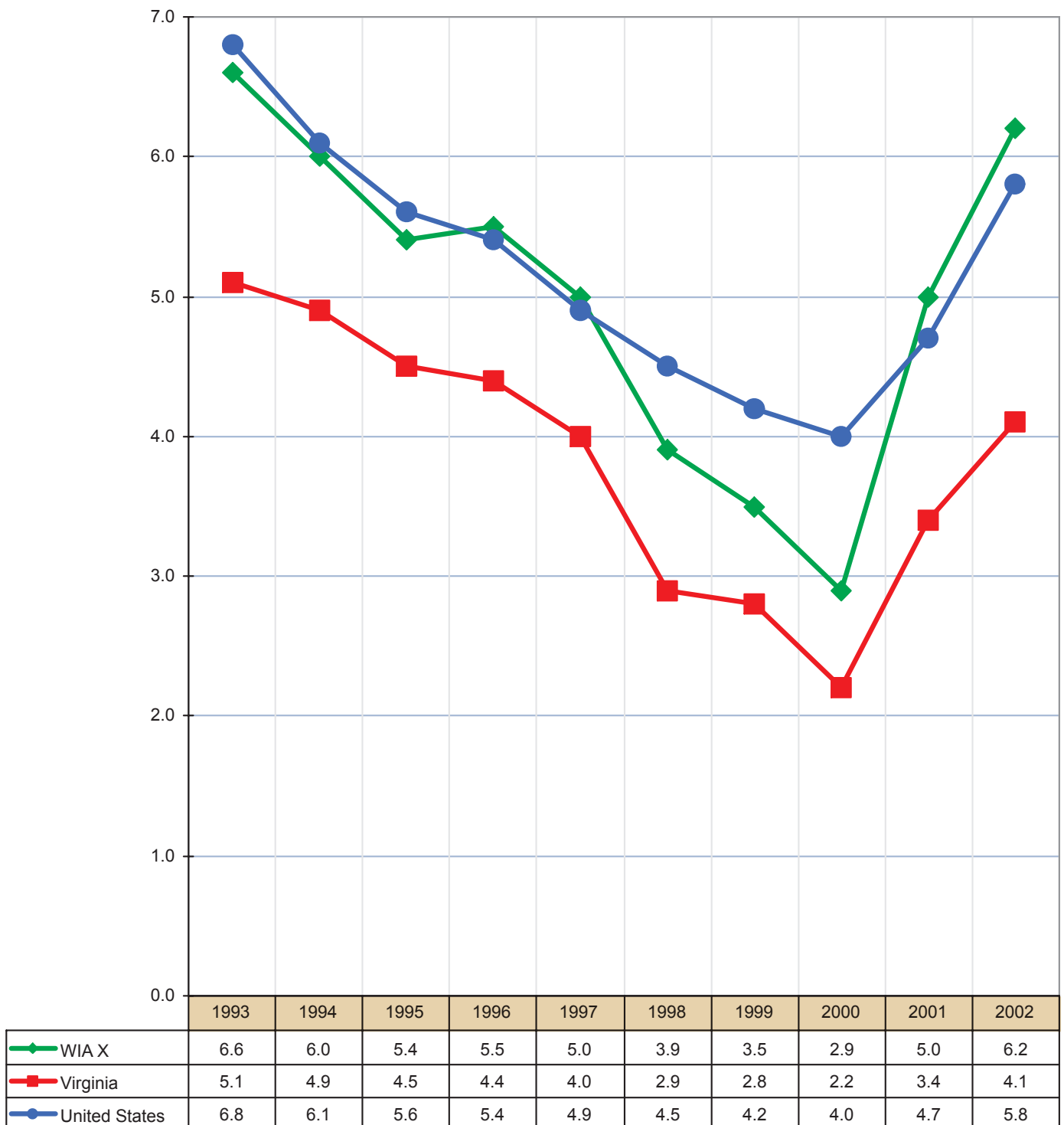
Where population demographics provide information on underlying trends within the labor force, economic data provides more detailed information on the likely demand for specific types of workers. Some key features of WIA X's economy are as follows:

- Unemployment rates are consistently above the statewide average. In 2002, WIA X's unemployment rate was 6.2 percent, 2.1 percent above the statewide average of 4.1 percent.
- Employment is concentrated in Government (28.8 percent), Manufacturing (8.5 percent), Health Care (8.1 percent), and Professional/Technical Services (6.2 percent).
- Most recent new hires have been in Services (47.8 percent), Retail Trade (24.2 percent), and Construction (8.4 percent).
- Overall personnel turnover is slightly above the statewide average (13.3 percent vs. 13.2 percent). Personnel turnover tends to be highest in Mining (30.6 percent), followed by Retail Trade (16.7 percent), Agriculture, Forestry, and Fishing (16.4 percent), Construction (16.3 percent), and Manufacturing (14.7 percent).
- Weekly wages were highest in Management (\$1,475), followed by Finance/Insurance (\$1,269), Professional/Technical Services (\$1,166), Information (\$1,016), and Manufacturing (\$994).
- Industries with the largest proportion of workers at or near retirement age (55 and above) are Finance, Insurance, and Real Estate (15.9 percent), Wholesale Trade (14.5 percent), Services (13.2 percent), and Agriculture (11.2 percent).
- Employment projections indicate that between 1998 and 2008, most employment growth will occur in Services (62,429 additional jobs), Retail Trade (16,127 additional jobs), and Finance, Insurance, and Real Estate (15,860 additional jobs). In contrast, Manufacturing is projected to lose 1,627 jobs, and Federal Government 1,083 jobs.
- Employment projections also indicate that between 1998 and 2008, the biggest growth in occupational employment will be in Systems Analysts (3,010 openings), Adjustment Clerks (2,050 openings), Computer Support Specialists (1,840 openings), Home Health Aides (1,770 openings), and Bill and Account Collectors (1,480 openings). Alternatively, the biggest declines in occupational employment will be in Private Child Care Workers, Peripheral EDP Equipment Operators, and Printing Film Strippers.
- Based on January 2004 Unemployment data, the largest pools of available workers are in the Office and Administrative Support, Production, Transportation and Materials Moving, Construction and Extraction, and Sales occupations.





Unemployment Rate Trends



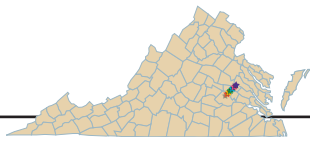


Employers by Size of Establishment

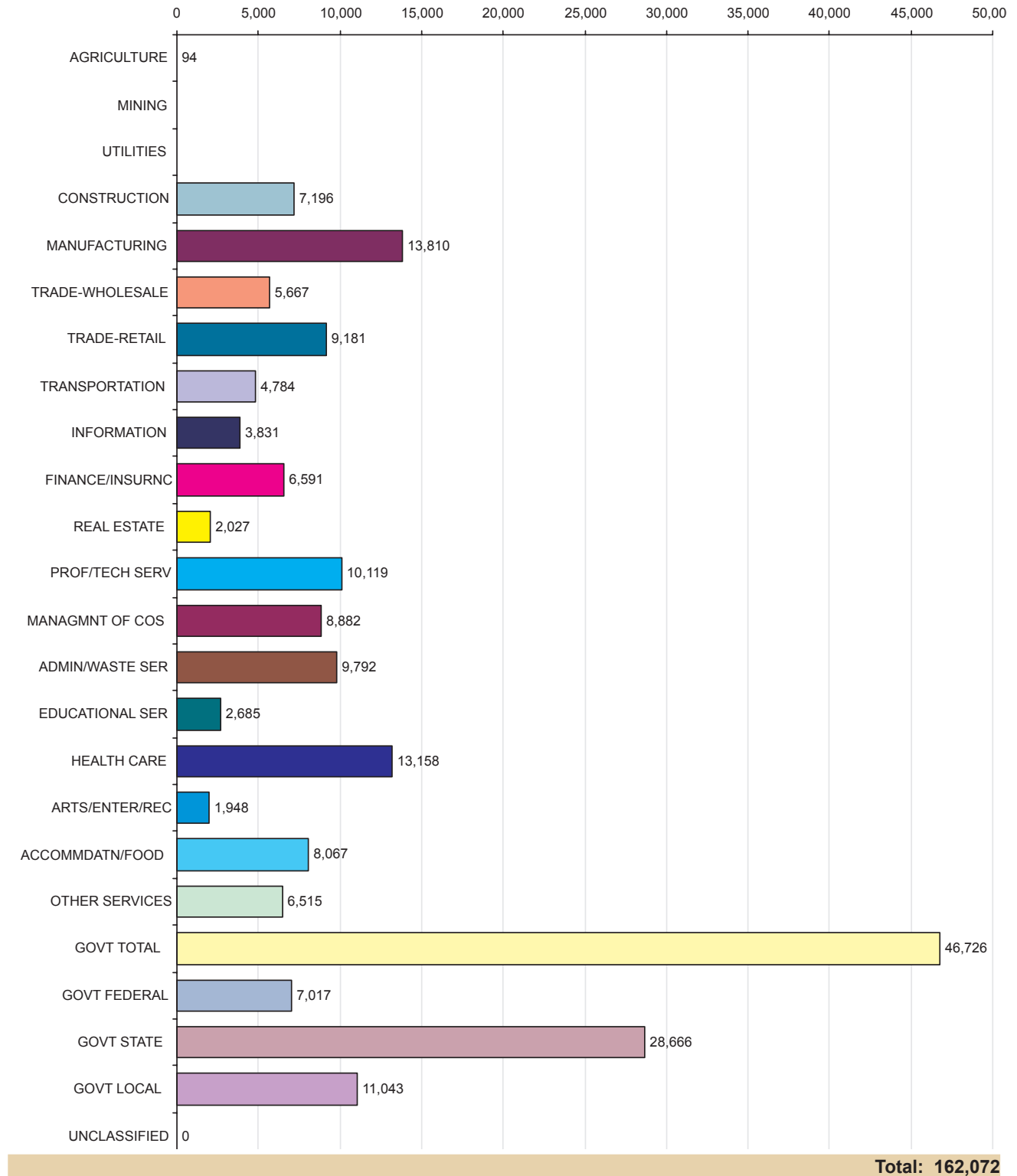
| Number of Employees | WIA X | Virginia |
|---------------------|--------------|----------------|
| 0 - 4 | 3,506 | 107,195 |
| 5 - 9 | 1,199 | 35,763 |
| 10 - 19 | 919 | 25,141 |
| 20 - 49 | 717 | 18,074 |
| 50 - 99 | 247 | 6,136 |
| 100 - 249 | 139 | 3,388 |
| 250 - 499 | 57 | 1,029 |
| 500 - 999 | 25 | 409 |
| 1000 + | 12 | 229 |
| TOTAL | 6,821 | 197,364 |

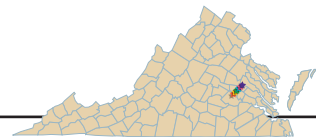
Employment by Size of Establishment

| Number of Employees | WIA X | Virginia |
|---------------------|----------------|------------------|
| 0 - 4 | 6,085 | 188,377 |
| 5 - 9 | 7,976 | 238,634 |
| 10 - 19 | 12,283 | 340,363 |
| 20 - 49 | 22,000 | 553,221 |
| 50 - 99 | 17,455 | 422,392 |
| 100 - 249 | 21,149 | 503,348 |
| 250 - 499 | 19,030 | 352,727 |
| 500 - 999 | 17,084 | 274,493 |
| 1000 + | 34,890 | 543,583 |
| TOTAL | 157,953 | 3,417,138 |



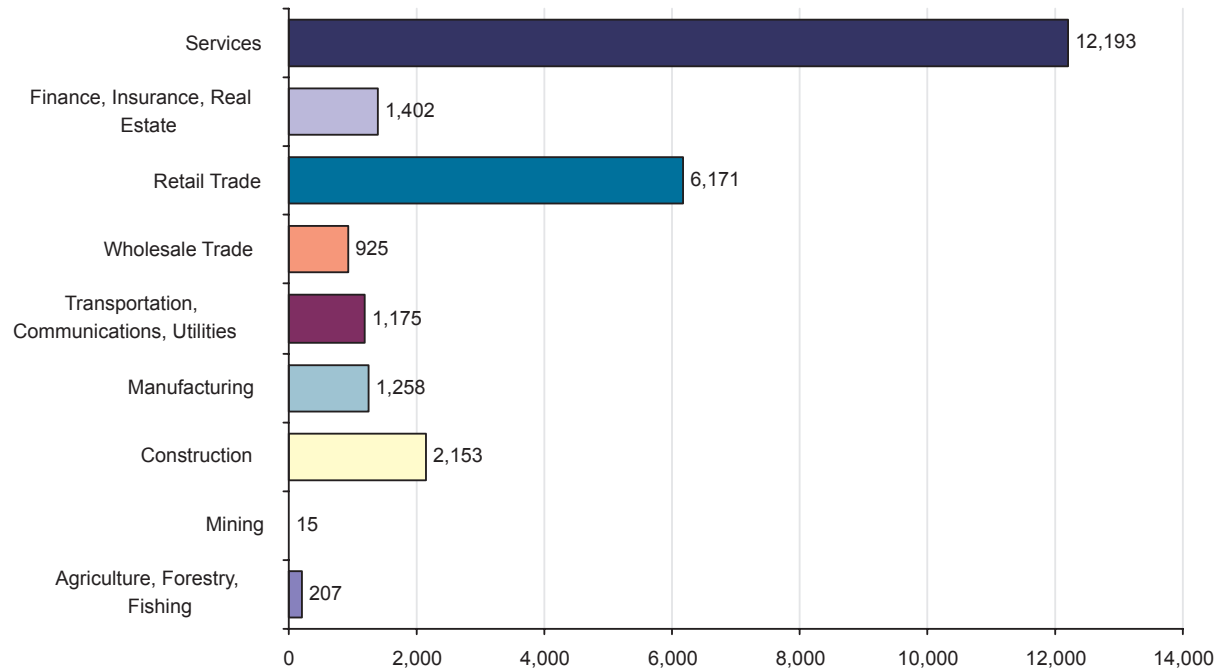
Employment by Industry





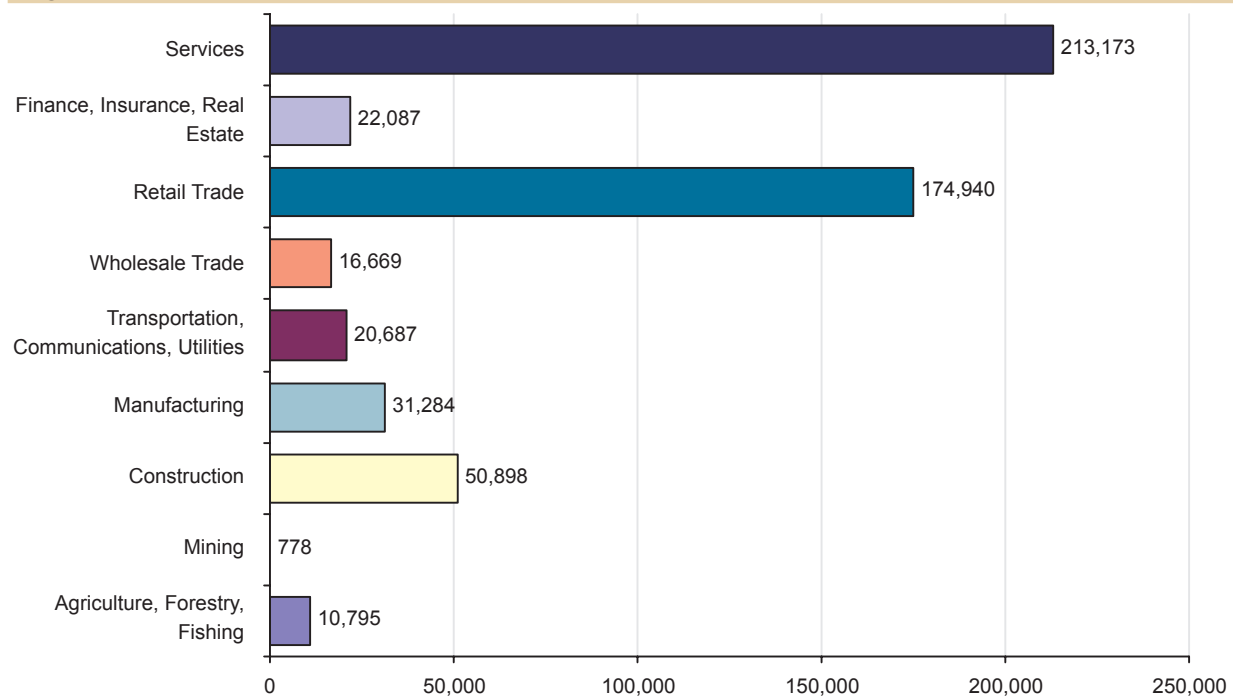
New Hires by Industry

WIA X

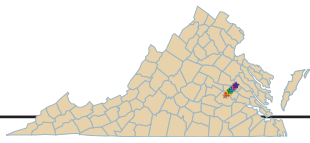


Total: 25,500

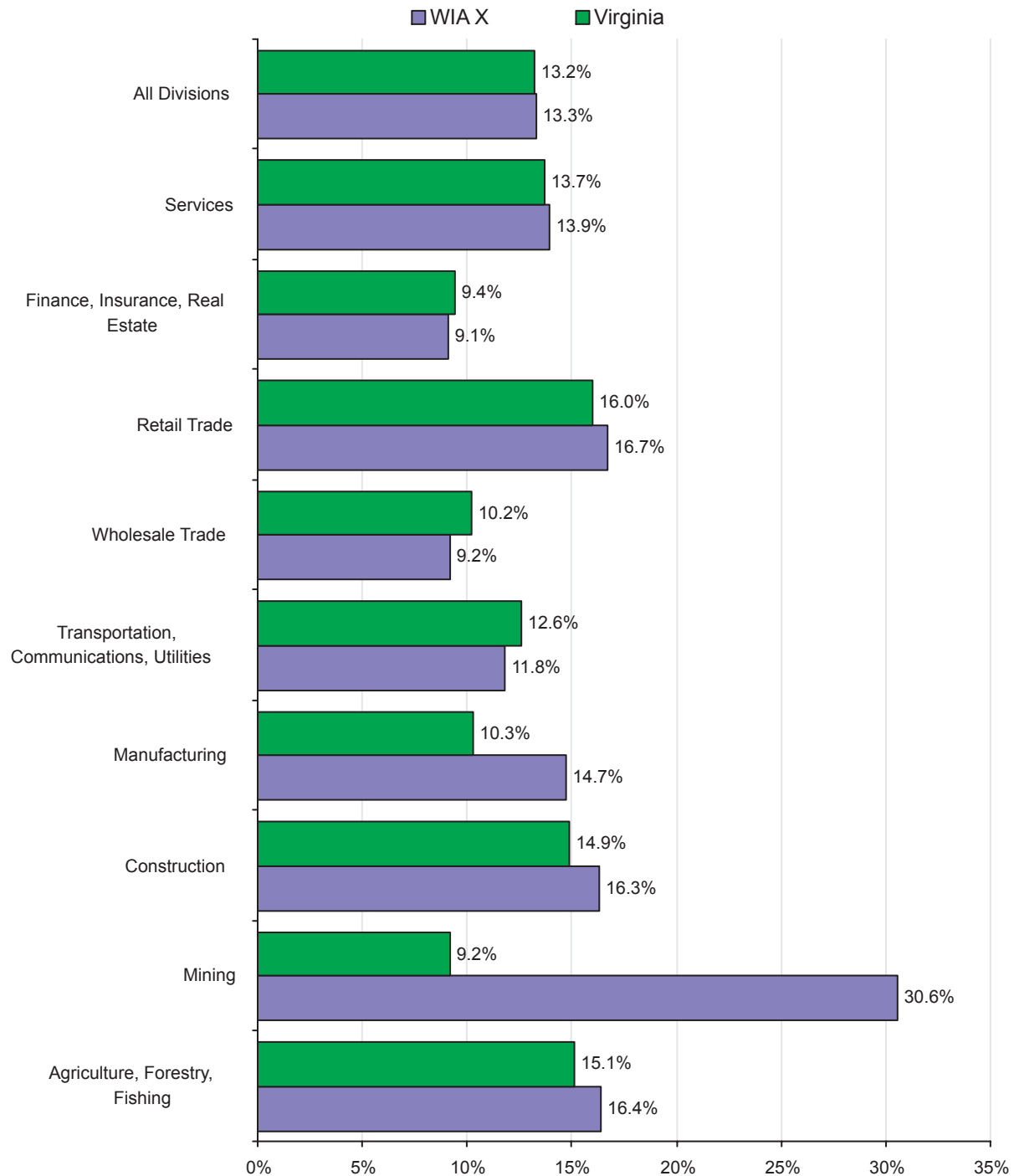
Virginia

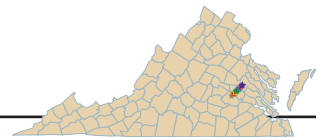


Total: 541,323

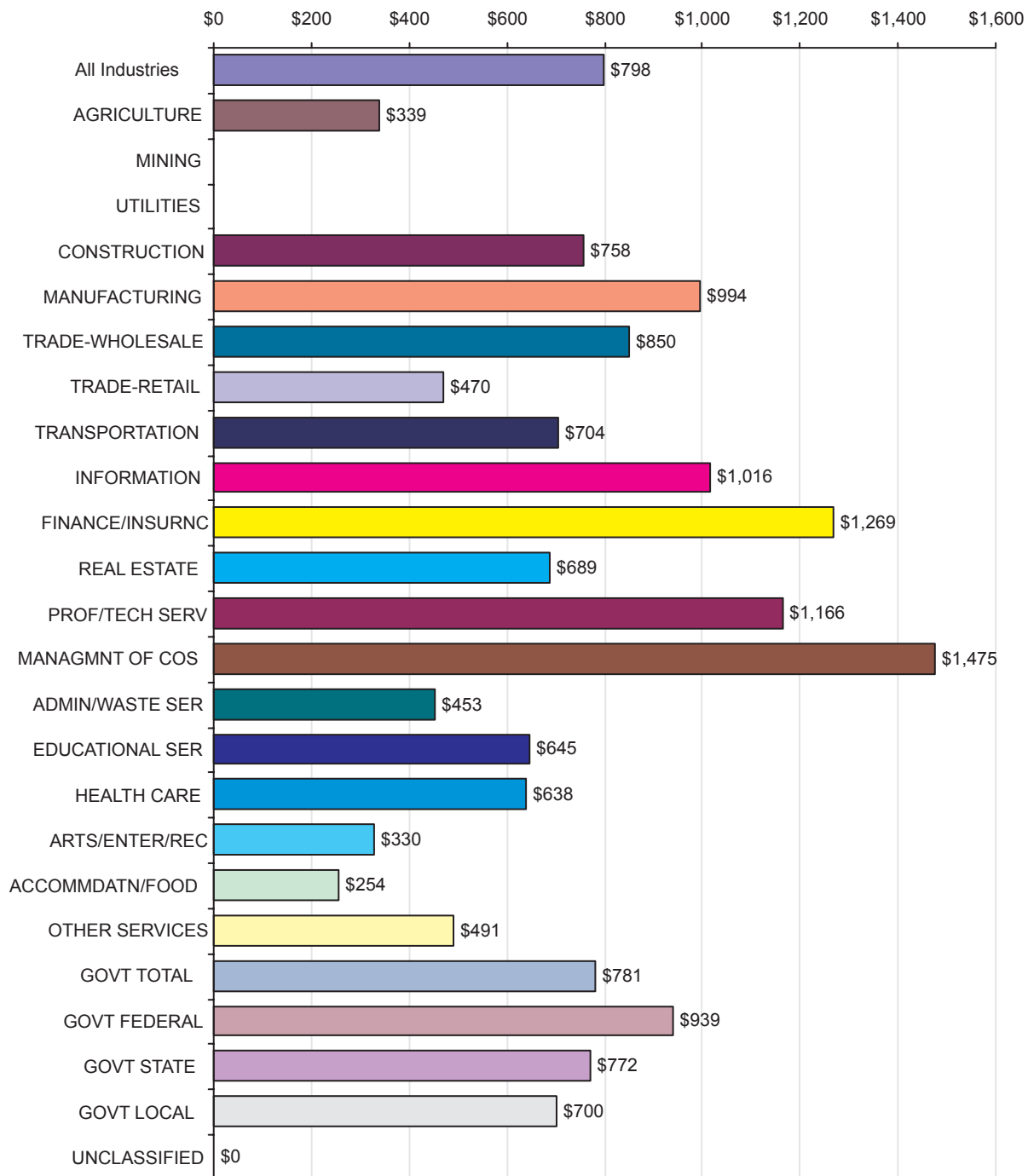


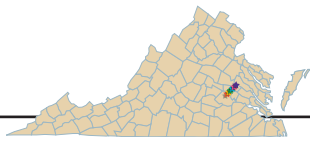
Turnover by Industry





Average Weekly Wage by Industry

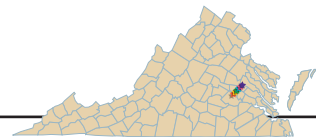




Age of Workers by Industry

■ WIA X
 ■ Virginia

| | 14 - 18 | 19 - 21 | 22 - 24 | 25 - 34 | 35 - 44 | 45 - 54 | 55 - 64 | 65 - 99 | 14 - 99 |
|--|---------|---------|---------|---------|---------|---------|---------|---------|-----------|
| Total Employment | 1,693 | 3,327 | 3,466 | 11,564 | 12,524 | 11,395 | 4,569 | 1,147 | 49,685 |
| | 106,356 | 162,652 | 180,601 | 659,050 | 739,013 | 576,728 | 282,064 | 81,995 | 2,788,457 |
| Agriculture, Forestry, and Fishing | 4 | 28 | 35 | 95 | 72 | 46 | 26 | 9 | 313 |
| | 2,219 | 3,048 | 3,158 | 9,842 | 9,481 | 6,372 | 2,705 | 1,600 | 38,424 |
| Mining | 14 | 117 | 229 | 962 | 1,709 | 2,570 | 653 | 35 | 6,288 |
| | 22 | 221 | 366 | 1,702 | 2,803 | 3,498 | 1,129 | 136 | 9,876 |
| Construction | 39 | 184 | 253 | 846 | 765 | 503 | 226 | 49 | 2,865 |
| | 3,907 | 10,799 | 13,521 | 50,770 | 61,204 | 41,178 | 18,359 | 6,009 | 205,745 |
| Manufacturing | 23 | 245 | 367 | 1,546 | 1,443 | 1,223 | 505 | 87 | 5,438 |
| | 2,142 | 9,334 | 14,693 | 72,949 | 106,504 | 94,364 | 46,938 | 7,579 | 354,504 |
| Transportation, Communications, and Utilities | 29 | 152 | 198 | 857 | 878 | 770 | 281 | 44 | 3,210 |
| | 1,059 | 4,542 | 8,097 | 42,450 | 52,051 | 40,960 | 16,851 | 3,199 | 169,208 |
| Wholesale Trade | 37 | 116 | 126 | 531 | 641 | 569 | 271 | 71 | 2,361 |
| | 1,691 | 4,449 | 6,486 | 33,407 | 43,317 | 32,948 | 15,708 | 4,557 | 142,564 |
| Retail Trade | 1,338 | 1,787 | 1,310 | 3,133 | 2,974 | 2,180 | 1,023 | 390 | 14,134 |
| | 67,335 | 76,880 | 57,338 | 136,252 | 130,099 | 94,331 | 48,135 | 20,155 | 630,522 |
| Finance, Insurance, and Real Estate | 17 | 67 | 136 | 463 | 521 | 486 | 239 | 80 | 2,008 |
| | 1,775 | 7,281 | 13,158 | 53,760 | 56,683 | 42,503 | 20,070 | 5,079 | 200,308 |
| Services | 193 | 633 | 812 | 3,132 | 3,522 | 3,050 | 1,346 | 382 | 13,069 |
| | 26,206 | 46,097 | 63,782 | 257,918 | 276,866 | 220,571 | 112,170 | 33,682 | 1,037,291 |



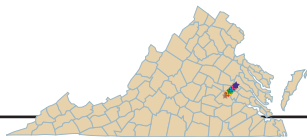
Total Employment by Industry

| | Employment | | | Percent Change | |
|---|------------------------|------------------------|---------|----------------|--------|
| | Esti- mated 1998 | Pro- jected 2008 | Change | Total | Annual |
| Total All Industries | 528,315 | 637,754 | 109,439 | 20.71% | 1.90% |
| Agriculture, Forestry and Fishing, Total | 5,692 | 6,188 | 496 | 8.71% | 0.84% |
| Mining, Total | 806 | 684 | -122 | -15.14% | -1.63% |
| Construction, Total | 32,551 | 35,634 | 3,083 | 9.47% | 0.91% |
| Manufacturing, Total | 61,152 | 59,525 | -1,627 | -2.66% | -0.27% |
| Durable Goods Manufacturing, Total | 21,872 | 22,649 | 777 | 3.55% | 0.35% |
| Nondurable Goods Manufacturing, Total | 39,280 | 36,876 | -2,404 | -6.12% | -0.63% |
| Transportation and Public Utilities, Total | 32,010 | 35,521 | 3,511 | 10.97% | 1.05% |
| Transportation, Total | 21,220 | 23,818 | 2,598 | 12.24% | 1.16% |
| Communications and Utilities, Total | 10,790 | 11,703 | 913 | 8.46% | 0.82% |
| Wholesale and Retail Trade, Total | 125,060 | 143,453 | 18,393 | 14.71% | 1.38% |
| Wholesale Trade, Total | 30,859 | 33,125 | 2,266 | 7.34% | 0.71% |
| Retail Trade, Total | 94,201 | 110,328 | 16,127 | 17.12% | 1.59% |
| Finance, Insurance, and Real Estate, Total | 45,559 | 61,419 | 15,860 | 34.81% | 3.03% |
| Services, Total | 172,188 | 234,617 | 62,429 | 36.26% | 3.14% |
| Federal Government (Except Post Office) | 12,012 | 10,926 | -1,083 | -9.04% | -0.94% |
| State Government (Except Education and Hospitality) | 23,680 | 27,510 | 3,830 | 16.17% | 1.51% |
| Local Government (Except Education and Hospitality) | 17,605 | 22,277 | 4,672 | 26.54% | 2.38% |

Employment by Major Occupation Group

| | Employment | | | Openings | | |
|--|-------------------|-------------------|----------|--------------|---------|---------|
| | Estimated 1998 | Projected 2008 | % Change | Replacements | Growth | Total |
| Total, All Occupations | 528,300 | 637,746 | 20.72% | 125,540 | 109,446 | 235,100 |
| Executive, Administrative and Managerial Occupations | 37,708 | 44,533 | 18.10% | 6,670 | 6,825 | 13,510 |
| Professional Specialty Occupations | 115,620 | 150,373 | 30.06% | 22,650 | 34,753 | 57,490 |
| Marketing and Sales Occupations | 67,072 | 80,951 | 20.69% | 20,090 | 13,879 | 33,960 |
| Administrative Support Occupations, Clerical | 96,790 | 114,251 | 18.04% | 20,240 | 17,461 | 37,710 |
| Service Occupations | 77,505 | 95,195 | 22.82% | 24,190 | 17,690 | 41,890 |
| Agriculture, Forestry, and Fishing Occupations | 7,576 | 8,740 | 15.36% | 2,040 | 1,164 | 3,200 |
| Precision Production, Craft and Repair Occupations | 52,430 | 58,549 | 11.67% | 12,320 | 6,119 | 18,430 |
| Operators, Fabricators, and Laborers | 73,599 | 85,154 | 15.70% | 17,340 | 11,555 | 28,910 |

Source: Industry and Occupational Employment Projections, 1998 — 2008.
Projections are for the Richmond-Petersburg MSA.



Growth Occupations

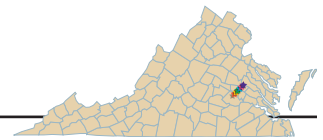
| | Employment | | | Openings | | | Wages |
|---|----------------|----------------|----------|--------------|--------|-------|--------------------|
| | Estimated 1998 | Projected 2008 | % Change | Replacements | Growth | Total | Median Annual Wage |
| Computer Engineers | 1,005 | 2,170 | 115.92% | 60 | 1,165 | 1,230 | \$65,737 |
| Computer Support Specialists | 1,707 | 3,435 | 101.23% | 110 | 1,728 | 1,840 | \$42,090 |
| Credit Checkers | 618 | 1,139 | 84.30% | 40 | 521 | 560 | \$29,952 |
| Database Administrators | 326 | 596 | 82.82% | 50 | 270 | 320 | \$66,781 |
| Bill & Account Collectors | 1,381 | 2,495 | 80.67% | 370 | 1,114 | 1,480 | \$26,801 |
| Systems Analysts | 3,572 | 6,358 | 78.00% | 220 | 2,786 | 3,010 | \$60,356 |
| Athletes, Coaches, Umpires | 213 | 373 | 75.12% | 80 | 160 | 240 | \$34,890* |
| Paralegals & Legal Assistants | 730 | 1,262 | 72.88% | 60 | 532 | 590 | \$33,999 |
| Economists | 332 | 563 | 69.58% | 70 | 231 | 300 | \$76,790* |
| New Accounts Clerks, Banking | 904 | 1,509 | 66.92% | 290 | 605 | 900 | \$20,730* |
| Home Health Aides | 2,210 | 3,668 | 65.97% | 310 | 1,458 | 1,770 | \$16,833 |
| Physician Assistants | 240 | 398 | 65.83% | 40 | 150 | 200 | \$63,046 |
| Desktop Publishing Specialists | 155 | 257 | 65.81% | 30 | 102 | 130 | \$33,810* |
| Loan & Credit Clerks | 1,455 | 2,341 | 60.89% | 150 | 886 | 1,040 | \$28,021 |
| Adjustment Clerks | 3,185 | 5,028 | 57.86% | 210 | 1,843 | 2,050 | \$27,661 |
| Ushers, Lobby Attendants, & Ticket Tkrs | 428 | 670 | 56.54% | 80 | 242 | 320 | \$13,560 |
| Personal & Home Care Aides | 604 | 944 | 56.29% | 160 | 340 | 500 | \$14,665 |
| Medical Assistants | 1,010 | 1,578 | 56.24% | 250 | 568 | 820 | \$39,698 |
| Management Analysts | 1,378 | 2,104 | 52.69% | 110 | 726 | 840 | \$51,475 |
| Health Diagnostics Teachers, Pstscndry | 341 | 519 | 52.20% | 90 | 178 | 270 | \$70,074 |

Declining Occupations

| | Employment | | | Openings | | |
|---|----------------|----------------|----------|--------------|--------|-------|
| | Estimated 1998 | Projected 2008 | % Change | Replacements | Growth | Total |
| Typesetting & Composing Machine Oprs | 69 | 27 | -60.87% | 10 | -42 | 10 |
| Railroad Brake, Signal & Switch Oprs | 62 | 30 | -51.61% | 20 | -32 | 20 |
| Houskeepers & Butlers, Private | 58 | 31 | -46.55% | 10 | -27 | 10 |
| Directory Assistance Operators | 97 | 61 | -37.11% | 20 | -36 | 20 |
| Station Installers & Repairers, Telephone | 116 | 74 | -36.21% | 40 | -42 | 40 |
| Peripheral EDP Equipment Operators | 167 | 107 | -35.93% | 20 | -60 | 20 |
| Film Strippers, Printing | 128 | 83 | -35.16% | 20 | -45 | 20 |
| Child Care Workers, Private | 378 | 254 | -32.80% | 170 | -124 | 170 |
| Statement Clerks | 104 | 77 | -25.96% | 10 | -27 | 10 |
| Transportation Attendants | 103 | 78 | -24.27% | 20 | -25 | 20 |

Source: Industry and Occupational Employment Projections, 1998 — 2008. 2002 OES Wage Survey Data
Projections are for the Richmond Petersburg MSA. Wages are for WIA X.

* These figures reflect the median annual wage for Virginia. Wage data for these occupations in WIA X were not available.

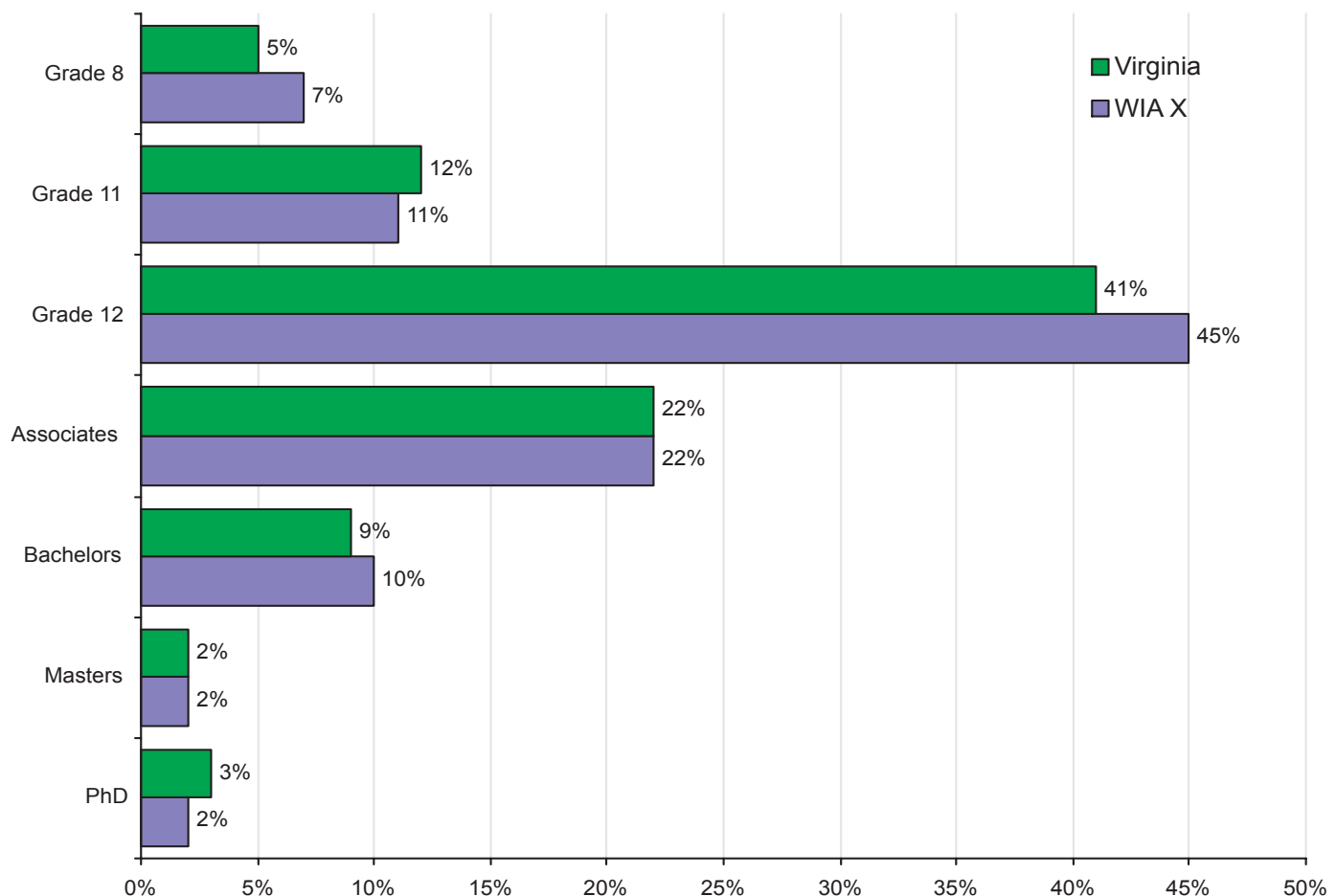


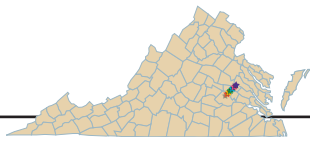
Characteristics of the Unemployed

Marketing the local labor force to new or expanding companies requires information about potential employees that would be available for immediate hire. Monthly data, collected as unemployed individuals apply for unemployment insurance benefits, provide information on various characteristics of the unemployed claimants. Demographic characteristics are recorded for age, race, sex, and education level. In addition, the industry of last employment and the occupation held in the most recent job is also part of the information collected when applicants register for unemployment insurance benefits.

As seen in the chart below, 45% of the unemployed claimants in City of Richmond have a grade 12 education level, as compared to only 41% of claimants statewide. On the other hand, at the level of Associates degree and higher, City of Richmond has a smaller percentage of claimants relative to the state. While City of Richmond has 2,589 unemployed claimants with at least an Associates degree, some of the other regions of the state have a higher ratio of claimants with post-secondary education.

Unemployed Claimants by Education Level





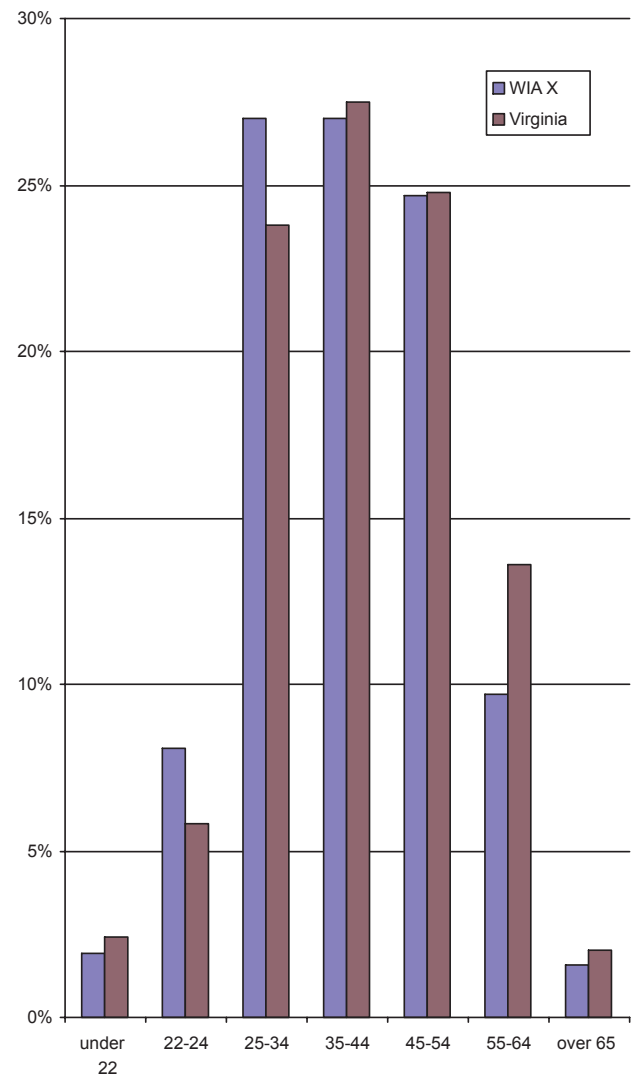
Characteristics of the Unemployed

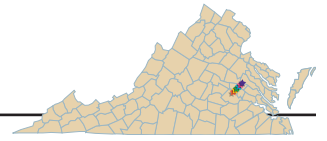
Office and Administrative Support workers comprise the largest category of unemployed beneficiaries in City of Richmond, accounting for almost 17% of total claimants in February 2004. Production and Transportation and Material Moving workers also account for a significant share of the unemployed claimants, collectively representing over 24% of the total. Employers requiring workers in these occupation categories will find an abundant supply.

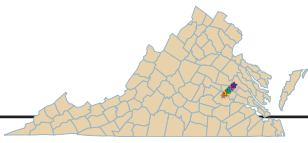
Claimants by Occupation

| OCCUPATION | Number of Claimants |
|--|---------------------|
| Management | 438 |
| Business and Financial Operations | 285 |
| Computer and Mathematical | 216 |
| Architecture and Engineering | 66 |
| Life, Physical, and Social Science | 24 |
| Community and Social Services | 101 |
| Legal | 55 |
| Education, Training, and Library | 99 |
| Arts, Design, Entertainment, Sports, and Media | 141 |
| Healthcare Practitioners and Technical | 80 |
| Healthcare Support | 233 |
| Protective Service | 86 |
| Food Preparation and Serving Related | 398 |
| Building and Grounds Cleaning and Maintenance | 356 |
| Personal Care and Service | 81 |
| Sales and Related | 612 |
| Office and Administrative Support | 1,198 |
| Farming, Fishing, and Forestry | 8 |
| Construction and Extraction | 691 |
| Installation, Maintenance, and Repair | 259 |
| Production | 959 |
| Transportation and Material Moving | 836 |
| Military Specific | 13 |
| SOC INA | 3 |
| TOTAL | 7,238 |

Claimants by Age







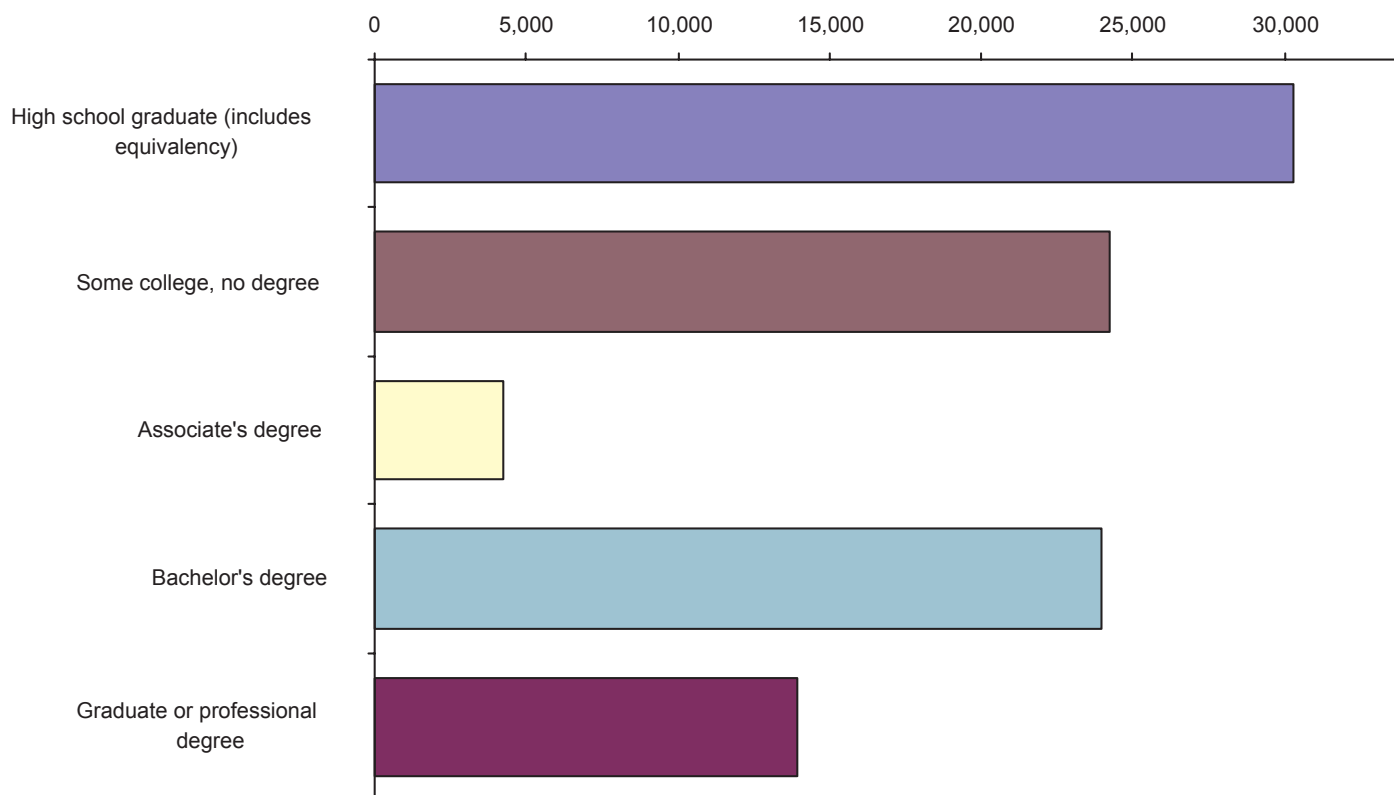
IV. Education Profile

Education data describe the human capital embodied in the current labor force and provide insight into the education and training that will be required to fill the ranks of the future labor force. Some key features of the WIA X's education and training environment are as follows:

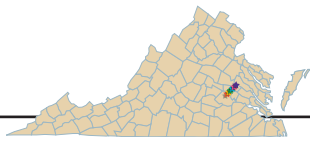
- Educational attainment at the baccalaureate level and above is comparable to the statewide average.
- An assessment of the occupation-driven demand for local training needs indicates that between 1998 and 2008 the greatest demand for graduates from:
 - *Post-secondary vocational programs* will be in Administrative Assistant and Secretarial Science, Auto Mechanic/Technician, Computer Systems Installer and Repairer, Cosmetologist, and Licensed Practical Nursing.
 - *Associate's degree programs* will be in Information Sciences and Systems, Management Information Systems and Business Data Processing, Paralegal, and Registered Nursing.
 - *Baccalaureate degree programs* will be in Accounting; Child Care and Guidance Workers/Managers; Computer and Information Sciences; Electrical, Electronics, and Computer Engineering; Elementary Teacher Education; General Education; General Finance; Human Resources Management; Information Sciences and Systems; Insurance Marketing; Investments and Securities; Management Information Systems and Business Data Processing; Physical Education and Coaching; and Purchasing, Procurement, and Contracts Management.
- An assessment of the occupation-driven demand for worker skills indicates that between 1998 and 2008 there will be a slight increase in required *writing* skills.



Education Level



| | |
|---|---------|
| Population 25 years and over | 128,555 |
| High school graduate (includes equivalency) | 30,314 |
| Some college, no degree | 24,224 |
| Associate's degree | 4,249 |
| Bachelor's degree | 23,951 |
| Graduate or professional degree | 13,910 |



Occupation-Driven Training Projection

In this section we use Virginia Employment Commission's (VEC's) occupational employment projections for the Richmond-Petersburg Metropolitan Statistical Area (MSA),¹ in combination with a crosswalk developed by the National Crosswalk Service Center (NCSC) to "map" occupations into their prerequisite education and training programs.² Often these are many-to-many relationships where one occupation maps into several alternative education and training programs, and one program serves as a conduit into multiple occupations. The analysis is then further refined by using a classification scheme developed by the Bureau of Labor Statistics (BLS) to "sort" occupations according to the minimum degree or award typically required for employment in that occupation.³ Through this combination of steps, we are able to use VEC's occupational employment projections to predict the occupation-driven demand for specific education and training programs within the Richmond-Petersburg MSA.⁴ The method used to accomplish this task is not new and has been successfully employed in earlier studies conducted in several states, including Virginia.⁵

The table that follows depicts the annual occupation-driven demand for training needs in the Richmond-Peters-

burg MSA for the 1998 to 2008 period, as derived from this analysis. As these data show, the largest numbers of needed graduates are in auto repair (*e.g.*, Auto/Automotive Mechanic / Technician), business (*e.g.*, Accounting; Business Administration and Management; General Finance; Human Resource Management; Insurance Marketing Operations; Investment and Securities; Purchasing, Procurement, and Contracts Management), clerical (*e.g.*, Administrative Assistant/Secretarial Science), computer technology (Business System Networking and Telecommunications, Computer Programming, Computer and Information Sciences, Information Sciences and Systems, Management Information Systems and Data Processing), education (*e.g.*, Elementary Teacher Education, General Education, and Physical Education Teaching and Coaching), engineering (*e.g.*, Civil Engineering, Electrical/Electronic and Communication Engineering, Engineering and Industrial Management), government (*e.g.*, Public Administration), health (*e.g.*, Medicine (MD), Registered Nurse, and Licensed Practical Nurse), law (*e.g.*, Law (LLB, JD) and Paralegal/Legal Assistant), and services (*e.g.*, Cosmetologist).

¹ The Richmond-Petersburg Metropolitan Statistical Area is comprised of Charles City, Chesterfield, Dinwiddie, Goochland, Hanover, Henrico, New Kent, Powhatan, and Prince George's counties and the cities of Colonial Heights, Hopewell, Petersburg, and Richmond.

² The National Crosswalk Service Center (NCSC) is funded by the U.S. Department of Labor, Employment and Training Administration. This crosswalk identifies the prerequisite instructional programs necessary for employment in 651 specific occupations.

³ The Bureau of Labor Statistics classifies occupations according to eleven education and training categories. Four of these involve on-the-job training or work experience only and the remaining seven require some level of postsecondary education (*i.e.*, first-professional degree, doctoral degree, master's degree, bachelor's degree, associate's degree, or postsecondary vocational training). For purposes of this study, we restrict the analysis to occupations that fall within these seven education and training categories.

⁴ More formally, the demand for education and training programs is calculated as:

$$DCIP_i = \sum DCip_{ji}$$

Where,

$$DCip_{ji} = (SOC_j)(GCIP_i / \sum GCip_{ij})$$

and,

$DCIP_i$ = the annual demand for instructional program i

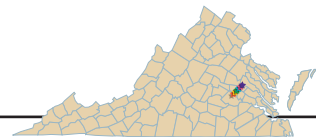
$\sum DCip_{ji}$ = the annual demand for instructional program i across all occupation(s) j

SOC_j = the projected annual openings for occupation j

$GCIP_i$ = Virginia graduates from instructional program i (for academic year 2000-01)

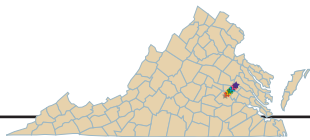
$\sum GCip_{ij}$ = Virginia graduates from all instructional program(s) i (for academic year 2000-01) related to occupation j

⁵ Similar methods are used in at least seven states (California, Georgia, Idaho, Illinois, New Jersey, Utah, and Virginia) to project anticipated education and training demands. For an excellent exposition of this method see, William J. Drummond and Jan L. Youtie, "Occupational Employment, Demand for College Graduates, and Migration: A Statewide View," a report to the Board of Regents, University System of Georgia, 1999. For an example of how this method has been used previously in Virginia see, A. Fletcher Mangum, "System-Wide Needs Assessment for Virginia Education," State Council of Higher Education for Virginia, March 28, 2002, p.90.



Annual Occupation-Driven Training Needs in the Richmond-Petersburg MSA, 1998 – 2008

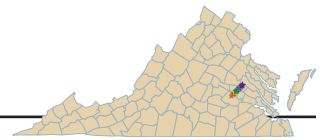
| Program | First Professional | Doctoral Degree | Master's Degree | Work Experience plus degree | Bachelor's Degree | Associate's Degree | Postsecondary Vocational Training | Total |
|---|--------------------|-----------------|-----------------|-----------------------------|-------------------|--------------------|-----------------------------------|-------|
| Accounting | | | | | 120 | | | 120 |
| Actuarial Science | | | | | 2 | | | 2 |
| Adaptive Physical Education/Therapeutic Recreation | | | | | 1 | | | 1 |
| Administrative Assistant / Secretarial Science, General | | | | | | | 50 | 50 |
| Advertising | | | | 1 | | | | 1 |
| Aeronautical and Aerospace Engineering Tech/Technician | | | | | | 1 | | 1 |
| Aerospace, Aeronautical and Astronautical Engineering | | | | | 3 | | | 3 |
| Agricultural Animal Husbandry and Production Management | | | | | 1 | | | 1 |
| Agricultural Business and Management, General | | | | 1 | | | | 1 |
| Agricultural Economics | | | | | 1 | | | 1 |
| Agricultural Supplies Retailing and Wholesaling | | | | | 1 | | | 1 |
| Agricultural Teacher Education (Vocational) | | | | | 3 | | | 3 |
| Animal Sciences, General | | | | 1 | | | | 1 |
| Applied Mathematics, General | | | 2 | | | | | 2 |
| Architectural Engineering | | | | | 2 | | | 2 |
| Architectural Environmental Design | | | | | 3 | | | 3 |
| Architectural Urban Design and Planning | | | 1 | | | | | 1 |
| Architecture | | | | | 16 | | | 16 |
| Art History, Criticism and Conservation | | | 3 | | | | | 3 |
| Art Teacher Education | | | | | 13 | | | 13 |
| Art, General | | | | 8 | | | | 8 |
| Arts Management | | | | 8 | | | | 8 |
| Audiology/Hearing Sciences | | | 1 | | | | | 1 |



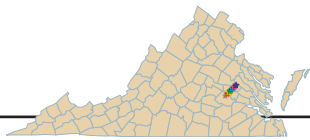
| Program | First Professional | Doctoral Degree | Master's Degree | Work Experience plus degree | Bachelor's Degree | Associate's Degree | Postsecondary Vocational Training | Total |
|---|--------------------|-----------------|-----------------|-----------------------------|-------------------|--------------------|-----------------------------------|-------|
| Auto / Automotive Mechanic / Technician | | | | | | | 109 | 109 |
| Automotive Engineering Tech / Technician | | | | | | | 6 | 6 |
| Barber/Hairstylist | | | | | | | 6 | 6 |
| Basic Medical Sciences, Other | | 1 | | | | | | 1 |
| Bible/Biblical Studies | | | | | 1 | | | 1 |
| Bilingual/Bicultural Education | | | | | 7 | | | 7 |
| Biochemistry | | 1 | | | | | | 1 |
| Biology Teacher Education | | | | | 2 | | | 2 |
| Biology, General | | 8 | | | | | | 8 |
| Business Administration and Management, General | | | | 776 | 11 | | | 787 |
| Business Computer Programming / Programmer | | | | | 20 | | | 20 |
| Business Information and Data Processing Services, Other | | | | | 3 | | | 3 |
| Business Machine Repairer | | | | | | | 1 | 1 |
| Business Marketing and Marketing Management | | | | 10 | | | | 10 |
| Business Quantitative Methods and Management Science, Other | | | 3 | | | | | 3 |
| Business Services Marketing Operations | | | | | 1 | | | 1 |
| Business Systems Analysis and Design | | | | | 8 | | | 8 |
| Business Systems Networking and Telecommunications | | | | | 5 | 43 | | 48 |
| Business Teacher Education (Vocational) | | | | | 3 | | | 3 |
| Business / Managerial Economics | | | | | 4 | | | 4 |
| Cardiovascular Tech / Technician | | | | | | 9 | | 9 |
| Cartography | | | | | 2 | | | 2 |
| Chemical Engineering | | | | | 11 | | | 11 |
| Chemistry, General | | | | | 18 | | | 18 |
| Child Care and Guidance Workers and Managers, General | | | | | 59 | | | 59 |

Education Profile

WIA X



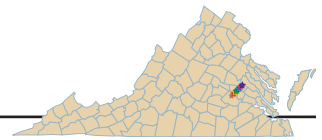
| Program | First Professional | Doctoral Degree | Master's Degree | Work Experience plus degree | Bachelor's Degree | Associate's Degree | Postsecondary Vocational Training | Total |
|--|--------------------|-----------------|-----------------|-----------------------------|-------------------|--------------------|-----------------------------------|-------|
| Child Care Provider / Assistant | | | | | 23 | | | 23 |
| Child Care Services Manager | | | | | 6 | | | 6 |
| Chiropractic (DC, DCM) | 2 | | | | | | | 2 |
| City/Urban, Community and Regional Planning | | | 17 | | | | | 17 |
| Civil Engineering, General | | | | | 46 | | | 46 |
| Civil Engineering, other | | | | | 1 | | | 1 |
| Clinical Psychology | | | 1 | | | | | 1 |
| College/Postsecondary Student Counseling and Personnel | | | 1 | | | | | 1 |
| Commercial Photography | | | | | | | 1 | 1 |
| Communication Disorders, General | | | 5 | | | | | 5 |
| Communication Systems Installer and Repairer | | | | | | | 22 | 22 |
| Communications Technol. / Technicians, Other | | | | | | | 2 | 2 |
| Community Organization, Resources and Services | | | | 3 | | | | 3 |
| Computer and Information Sciences, General | | | | | 189 | | | 189 |
| Computer and Information Sciences, Other | | | | | 10 | | | 10 |
| Computer Engineering | | | | | 33 | | | 33 |
| Computer Engineering Tech / Technician | | | | | | 10 | | 10 |
| Computer Installer and Repairer | | | | | | | 6 | 6 |
| Computer Maintenance Tech/ Technician | | | | | | | 17 | 17 |
| Computer Programming | | | | | 46 | | | 46 |
| Computer Science | | | | | 3 | | | 3 |
| Computer System Analysis | | | | | 10 | | | 10 |
| Computer Teacher Education | | | | | 4 | | | 4 |
| Conservation and Renewable Natural Resources, Other | | | | | 1 | | | 1 |
| Cosmetic Services, General | | | | | | | 4 | 4 |
| Cosmetologist | | | | | | | 59 | 59 |



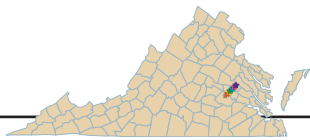
| Program | First Professional | Doctoral Degree | Master's Degree | Work Experience plus degree | Bachelor's Degree | Associate's Degree | Postsecondary Vocational Training | Total |
|---|--------------------|-----------------|-----------------|-----------------------------|-------------------|--------------------|-----------------------------------|-------|
| Counseling Psychology | | | 1 | | | | | 1 |
| Counselor Education Counseling and Guidance Services | | | 29 | | | | | 29 |
| Court Reporter | | | | | | | 2 | 2 |
| Dance | | | | | | | 1 | 1 |
| Data Processing Tech / Technician | | | | | 3 | | | 3 |
| Dental Clinical Services / Graduate Dentistry (MS, PhD) | 1 | | | | | | | 1 |
| Dental Hygienist | | | | | | 32 | | 32 |
| Dentistry (DDS, DMD) | 12 | | | | | | | 12 |
| Design and Applied Arts, Other | | | | | 4 | | | 4 |
| Design and Visual Communications | | | | | 13 | | | 13 |
| Dietetics / Human Nutritional Services | | | | | 3 | | | 3 |
| Divinity/Ministry (B.D., M.Div.) | 1 | | | | | | | 1 |
| Drama and Dance Teacher Education | | | | | 1 | | | 1 |
| Earth and Planetary Sciences | | | | | 1 | | | 1 |
| Economics, General | | | | | 24 | | | 24 |
| Education Administration and Supervision, General | | | | 19 | | | | 19 |
| Education Administration and Supervision, Other | | | | 2 | | | | 2 |
| Education of the Deaf and Hearing Impaired | | | | | 1 | | | 1 |
| Education of the Emotionally Handicapped | | | | | 1 | | | 1 |
| Education of the Mentally Handicapped | | | | | 1 | | | 1 |
| Education of the Specific Learning Disabled | | | | | 1 | | | 1 |
| Education of the Speech Impaired | | | | | 1 | | | 1 |
| Education, General | | | | 38 | 248 | | | 286 |
| Educational Supervision | | | | 1 | | | | 1 |

Education Profile

WIA X



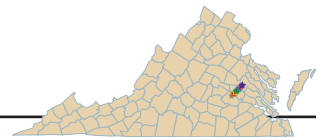
| Program | First Professional | Doctoral Degree | Master's Degree | Work Experience plus degree | Bachelor's Degree | Associate's Degree | Postsecondary Vocational Training | Total |
|---|--------------------|-----------------|-----------------|-----------------------------|-------------------|--------------------|-----------------------------------|-------|
| Electrical and Electronic Engineering – Related Tech / Technician | | | | | | 12 | | 12 |
| Electrical and Electronics Equipment Installer and Repairer | | | | | | | 10 | 10 |
| Electrical, Electronic and Communications Engineering Tech / Technician | | | | | | 17 | | 17 |
| Electrical, Electronics and Communication Engineering | | | | | 59 | | | 59 |
| Electromechanical Tech / Technician | | | | | | 2 | | 2 |
| Elementary Teacher Education | | | | | 133 | | | 133 |
| Elementary, Middle and Secondary Education Administration | | | | 4 | | | | 4 |
| Emergency Medical Tech / Technician | | | | | | | 20 | 20 |
| Engineering / Industrial Management | | | | 78 | 1 | | | 79 |
| English Teacher Education | | | | | 18 | | | 18 |
| Enterprise Management and Operation, General | | | | 7 | | | | 7 |
| Farm and Ranch Management | | | | 1 | | | | 1 |
| Fashion and Fabric Consultant | | | | | 1 | | | 1 |
| Fashion Design and Illustration | | | | | 6 | | | 6 |
| Fashion Merchandising | | | | 1 | | | | 1 |
| Film/Video and Photographic Arts, Other | | | | | | | 1 | 1 |
| Finance, General | | | | 102 | 135 | | | 237 |
| Financial Management and Services, Other | | | | 2 | | | | 2 |
| Financial Planning | | | | | 20 | | | 20 |
| Financial Services Marketing Operations | | | | | 7 | | | 7 |
| Fine Arts and Art Studies, Other | | | | 1 | | | | 1 |
| Fine/Studio Arts | | | | 4 | | | | 4 |
| Floristry Marketing Operations | | | | | 2 | | | 2 |
| Food and Nutrition Science | | | | | 2 | | | 2 |



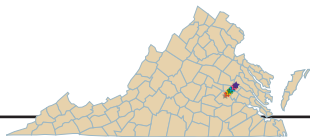
| Program | First Professional | Doctoral Degree | Master's Degree | Work Experience plus degree | Bachelor's Degree | Associate's Degree | Postsecondary Vocational Training | Total |
|--|--------------------|-----------------|-----------------|-----------------------------|-------------------|--------------------|-----------------------------------|-------|
| Foods and Nutrition Studies, General | | | | | 5 | | | 5 |
| Foreign Languages Teacher Education | | | | | 3 | | | 3 |
| Forestry, General | | | | | 2 | | | 2 |
| Funeral Services and Mortuary Science | | | | | | 4 | | 4 |
| General Buying Operations | | | | | 7 | | | 7 |
| General Retailing Operations | | | | | 12 | | | 12 |
| Geological and Related Sciences, Other | | | | | 1 | | | 1 |
| Geology | | | | | 4 | | | 4 |
| Graphic Design, Commercial Art and Illustration | | | | 11 | | | | 11 |
| Health and Medical Administrative Services, Other | | | | 1 | | | | 1 |
| Health and Physical Education, General | | | | | 7 | | | 7 |
| Health and Physical Education/ Fitness, Other | | | | | 1 | | | 1 |
| Health System/Health Services Administration | | | | 1 | | | | 1 |
| Health Teacher Education | | | | | 9 | | | 9 |
| Higher Education Administration | | | | 1 | | | | 1 |
| History Teacher Education | | | | | 2 | | | 2 |
| Home Economics Teacher Education (Vocational) | | | | | 1 | | | 1 |
| Home Furnishings and Equipment Installers and Consultants, General | | | | | 1 | | | 1 |
| Human Resources Management | | | | 18 | 97 | | | 115 |
| Human Resources Management, Other | | | | | 10 | | | 10 |
| Industrial Design | | | | | 3 | | | 3 |
| Industrial Electronics Installer and Repairer | | | | | | | 1 | 1 |
| Industrial/Manufacturing Engineering | | | | | 5 | | | 5 |

Education Profile

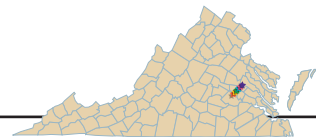
WIA X



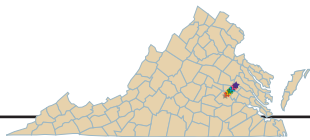
| Program | First Professional | Doctoral Degree | Master's Degree | Work Experience plus degree | Bachelor's Degree | Associate's Degree | Postsecondary Vocational Training | Total |
|--|--------------------|-----------------|-----------------|-----------------------------|-------------------|--------------------|-----------------------------------|-------|
| Information Sciences and Systems | | | | | 102 | 55 | | 157 |
| Instrumentation Tech / Technician | | | | | | 1 | | 1 |
| Insurance and Risk Management | | | | | 16 | | | 16 |
| Insurance Marketing Operations | | | | | 62 | | | 62 |
| Interior Architecture | | | | | 2 | | | 2 |
| Interior Design | | | | | 6 | | | 6 |
| International Business | | | | 21 | | | | 21 |
| Investments and Securities | | | | 3 | 60 | | | 63 |
| Junior High / Intermediate / Middle School Teacher Education | | | | | 8 | | | 8 |
| Juridical Science / Legal Specialization (LLM, MCL, JSD) | 5 | | | | | | | 5 |
| Labor/Personnel Relations and Studies | | | | 4 | 13 | | | 17 |
| Landscape Architecture | | | | | 1 | | | 1 |
| Law (LLB, JD) | 84 | | | | | | | 84 |
| Law and Legal Studies, Other | 6 | | | | | | | 6 |
| Legal Administrative Assistant / Secretary | | | | | | | 4 | 4 |
| Library Science, Other | | | 1 | | | | | 1 |
| Library Science / Librarianship | | | 27 | | | | | 27 |
| Logistics and Materials Management | | | | 1 | | | | 1 |
| Make-Up Artist | | | | | | | 4 | 4 |
| Management Information Systems and Business Data Processing | | | | | 84 | 86 | | 170 |
| Management Science | | | 8 | | | | | 8 |
| Material Engineering | | | | | 1 | | | 1 |
| Mathematics | | | 3 | | | | | 3 |
| Mathematics Teacher Education | | | | | 13 | | | 13 |
| Mechanical Engineering | | | | | 32 | | | 32 |
| Medical Administrative Assistant / Secretary | | | | | | | 6 | 6 |



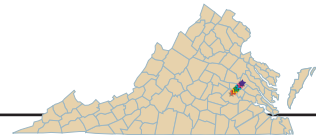
| Program | First Professional | Doctoral Degree | Master's Degree | Work Experience plus degree | Bachelor's Degree | Associate's Degree | Postsecondary Vocational Training | Total |
|---|--------------------|-----------------|-----------------|-----------------------------|-------------------|--------------------|-----------------------------------|-------|
| Medical Office Management | | | | | | | 2 | 2 |
| Medical Pharmacology and Pharmaceutical Sciences | 2 | | | | | | | 2 |
| Medical Records Tech / Technician | | | | | | 17 | | 17 |
| Medical Transcription | | | | | | | 13 | 13 |
| Medicine (MD) | 87 | | | | | | | 87 |
| Metal and Jewelry Arts | | | | 2 | | | | 2 |
| Microbiology/ Bacteriology | | 1 | | | | | | 1 |
| Music Teacher Education | | | | | 23 | | | 23 |
| Natural Resources Conservation, General | | | | | 3 | | | 3 |
| Natural Resources Management and Policy | | | | | 1 | | | 1 |
| Natural Resources Management and Protective Services, Other | | | | | 1 | | | 1 |
| Nuclear Engineering | | | | | 1 | | | 1 |
| Nuclear Medical Tech / Technician | | | | | | 1 | | 1 |
| Nursing (R.N. Training) | | | | | | 275 | | 275 |
| Nursing Anesthetics (Post-R.N.) | | | | | | 2 | | 2 |
| Nursing Science (Post-R.N.) | | | | | | 13 | | 13 |
| Nursing, Adult Health (Post-R.N.) | | | | | | 1 | | 1 |
| Nursing, Family Practice (Post-R.N.) | | | | | | 4 | | 4 |
| Nursing, Maternal/Child Health (Post-R.N.) | | | | | | 1 | | 1 |
| Nursing, Other | | | | | | 41 | | 41 |
| Nursing, Public Health (Post-R.N.) | | | | | | 1 | | 1 |
| Nursing, Surgical (Post-R.N.) | | | | | | 1 | | 1 |
| Occupational Therapy | | | | | 12 | | | 12 |
| Occupational Therapy Assistant | | | | | | 5 | | 5 |
| Oceanography | | | | | 1 | | | 1 |
| Operations Research | | | 1 | | | | | 1 |
| Optometry (O.D.) | 2 | | | | | | | 2 |



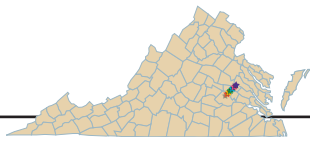
| Program | First Professional | Doctoral Degree | Master's Degree | Work Experience plus degree | Bachelor's Degree | Associate's Degree | Postsecondary Vocational Training | Total |
|---|--------------------|-----------------|-----------------|-----------------------------|-------------------|--------------------|-----------------------------------|-------|
| Organizational Behavior Studies | | | | | 25 | | | 25 |
| Osteopathic Medicine (D.O.) | 14 | | | | | | | 14 |
| Painting | | | | 1 | | | | 1 |
| Paralegal/Legal Assistant | | | | | | 59 | | 59 |
| Parks, Recreation and Leisure Facilities Management | | | | | 3 | | | 3 |
| Parks, Recreation and Leisure Studies | | | | | 3 | | | 3 |
| Parks, Recreation, Leisure and Fitness Studies, other | | | | | 1 | | | 1 |
| Pharmacy (B. Pharm., Pharm D.) | 24 | | | | | | | 24 |
| Pharmacy, other | 1 | | | | | | | 1 |
| Photography | | | | | | | 3 | 3 |
| Physical Education Teaching and Coaching | | | | | 51 | | | 51 |
| Physical Therapy | | | 25 | | | | | 25 |
| Physical Therapy Assistant | | | | | | 16 | | 16 |
| Physician Assistant | | | | | 20 | | | 20 |
| Physics, General | | 1 | | | | | | 1 |
| Practical Nurse (LPN Training) | | | | | | | 142 | 142 |
| Psychiatric / Mental Health Services Technician | | | | | | | 5 | 5 |
| Psychology, General | | | 10 | | | | | 10 |
| Psychology, Other | | | 1 | | | | | 1 |
| Public Administration | | | | 52 | | | | 52 |
| Public Administration and Services, Other | | | | 2 | | | | 2 |
| Public Health, General | | | | 1 | | | | 1 |
| Public Policy Analysis | | | | 1 | | | | 1 |
| Public Relations and Organizational Communications | | | | 1 | 24 | | | 25 |
| Purchasing, Procurement and Contracts Management | | | | | 53 | | | 53 |
| Radio and Television Broadcasting Tech / Technician | | | | | | | 2 | 2 |
| Reading Teacher Education | | | | | 30 | | | 30 |



| Program | First Professional | Doctoral Degree | Master's Degree | Work Experience plus degree | Bachelor's Degree | Associate's Degree | Postsecondary Vocational Training | Total |
|--|--------------------|-----------------|-----------------|-----------------------------|-------------------|--------------------|-----------------------------------|-------|
| Real Estate | | | | | 33 | | 18 | 51 |
| Recreational Therapy | | | | | 1 | | | 1 |
| Religious Education | | | | | 1 | | | 1 |
| Respiratory Therapy Technician | | | | | | 19 | | 19 |
| Robotics Tech / Technician | | | | | | 1 | | 1 |
| School Psychology | | | 3 | | | | | 3 |
| Science Teacher Education, General | | | | | 6 | | | 6 |
| Secondary Teacher Education | | | | | 33 | | | 33 |
| Social Science Teacher Education | | | | | 3 | | | 3 |
| Social Studies Teacher Education | | | | | 8 | | | 8 |
| Spanish Language Teacher Education | | | | | 2 | | | 2 |
| Special Education, General | | | | | 23 | | | 23 |
| Special Education, Other | | | | | 2 | | | 2 |
| Speech-Language Pathology | | | 4 | | | | | 4 |
| Speech-Language Pathology and Audiology | | | 11 | | | | | 11 |
| Sport and Fitness Administration/Management | | | | | 3 | | | 3 |
| Surgical / Operating Room Technician | | | | | | | 10 | 10 |
| Surveying | | | | | 5 | | | 5 |
| Taxation | | | | | 7 | | | 7 |
| Teacher Education, Specific Academic and Vocational Programs | | | | | 14 | | | 14 |
| Technical Teacher Education (Vocational) | | | | | 4 | | | 4 |
| Technical Theater/Theater Design and Stagecraft | | | | | 1 | | | 1 |
| Technology Teacher Education / Industrial Arts Teacher Ed | | | | | 5 | | | 5 |
| Theology/Theological Studies | 1 | | | | | | | 1 |
| Trade and Industrial Teacher Education (Vocational) | | | | | 5 | | | 5 |



| Program | First Professional | Doctoral Degree | Master's Degree | Work Experience plus degree | Bachelor's Degree | Associate's Degree | Postsecondary Vocational Training | Total |
|---|--------------------|-----------------|-----------------|-----------------------------|-------------------|--------------------|-----------------------------------|-------------|
| Travel Services Marketing Operations | | | | | | | 18 | 18 |
| Veterinarian Assistant / Animal Health Technician | | | | | | 5 | | 5 |
| Veterinary Clinical Sciences (MS, PhD) | 1 | | | | | | | 1 |
| Veterinary Medicine (DVM) | 7 | | | | | | | 7 |
| Vocational Rehabilitation Counseling | | | 2 | | | | | 2 |
| Totals | 250 | 12 | 160 | 1189 | 2357 | 734 | 545 | 5247 |



Work Skills Projection

In this section we use the VEC's occupational employment projections for the Richmond MSA, in combination with occupational skills profiles developed by ACT,¹ to identify the skill sets that will be required to fill projected annual job openings within the region. The skills categories addressed in this analysis are Applied Mathematics, Applied Technology, Listening, Locating Information, Observation, Reading for Information, Teamwork, and Writing. A description of each category, the skills Levels associated with it, and the proportion of projected annual job openings that fall within each skill Level follow.

Applied Mathematics

The **Applied Mathematics** assessment measures a person's skill in using mathematical reasoning to solve work-related problems. ACT defines the skills Levels associated with this category as follows.

Level 3:

- Perform basic mathematical operations using whole numbers and decimals.
- Convert a number from one form into another using whole numbers, fractions, decimals, or percentages.
- Solve problems that are straightforward, involving a single type of mathematical operation.
- Translate easily from a verbal setup to a mathematical equation when all the information needed to solve the problem is provided in logical order and no unrelated information is included.

Level 4 (in addition to requirements for previous Levels):

- Perform one or two mathematical operations using several positive or negative numbers.
- Add commonly known fractions, decimals, or percentages, or add three fractions that share a common denominator.
- Calculate averages, simple ratios, proportions, and rates, using whole numbers and decimals.
- Reorder verbal information before performing calculations.

- Determine which operations to perform and in what order.
- Read a simple chart or graph to obtain the information needed to solve a problem.

Level 5 (in addition to requirements for previous Levels):

- Look up and calculate single-step conversions within English or non-English systems of measurement or between systems of measurement.
- Calculate using mixed units and several steps of logic.
- Calculate perimeters and areas of basic shapes.
- Calculate percentage discounts and markups.
- Determine what information, calculations, and unit conversions are needed to find a solution.

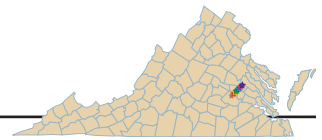
Level 6 (in addition to requirements for previous Levels):

- Calculate using negative numbers, fractions, ratios, percentages, and mixed numbers.
- Calculate multiple rates for comparison or use in other calculations.
- Find basic areas and volumes of rectangular solids.
- Identify and correct errors in calculations.
- Solve problems involving considerable setup and multiple-step calculations or conversions.

Level 7 (in addition to requirements for previous Levels):

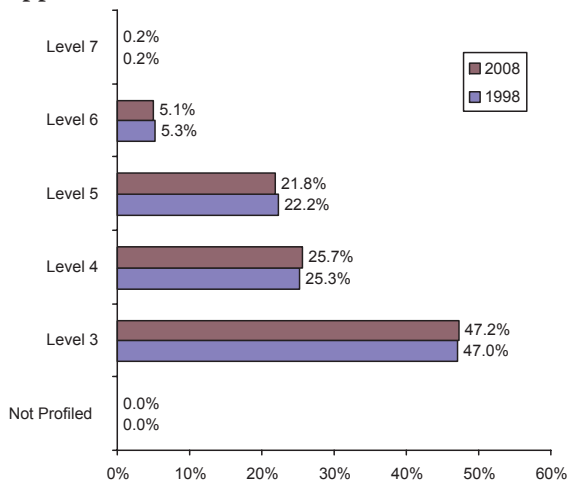
- Calculate using multiple steps of logic.
- Calculate multiple areas and the volumes of spheres, cylinders, and cones.
- Solve problems with more than one unknown.
- Solve problems involving nonlinear functions, such as rates of change.
- Calculate by applying basic statistical concepts.

¹ The occupational skills profiles used in this analysis were provided by ACT. ACT is an independent, non-profit organization that specializes in research and assessment related to education and work. These profiles are based on actual ACT *WorkKeys* assessments of thousands of employed individuals nationally. They represent the most comprehensive and current measure of the work skills required for specific occupations.

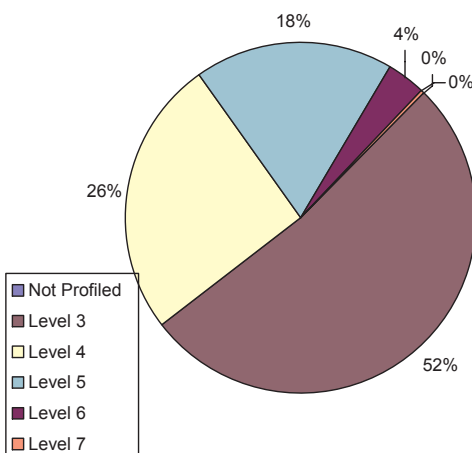


- Derive information needed to solve problems if incomplete or implicit information is presented.

The following figure details the percentage of overall jobs in the Richmond MSA in 1998 and 2008 by required **Applied Mathematics** skills Level, as determined by the ACT occupation skills profiles. The second figure provides a similar breakdown for projected annual job openings between 1998 and 2008. These data show that the majority of jobs will require workers with Level 3 Applied Mathematics skills.



Proportion of Jobs in the Richmond MSA by Required Skill Level – Applied Mathematics



Annual Openings in the Richmond MSA by Required Skill Level – Applied Mathematics

Applied Technology

The Applied Technology assessment measures a person's skill in using the basic principles of mechanics, electricity, fluid dynamics, and thermodynamics to solve

problems with machines, equipment, and structures found in the workplace. ACT defines the skills Levels associated with this category as follows.

Level 3:

- Understand the operation of basic hand tools, simple machine components, and uncomplicated systems, such as piping systems, simple electrical heaters, or other equipment found in the home, school, or workplace.
- Apply elementary principles underlying the operation of physical systems, such as the workings of plumbing components or simple electrical systems.

Level 4 (in addition to requirements for previous Levels):

- Understand the operation of moderately complex tools, machines, and systems, such as appliances, pulley-driven equipment, or piping systems that carry more than one fluid.
- Apply elementary principles underlying the operation of physical systems, such as a block and tackle or cooling fins.

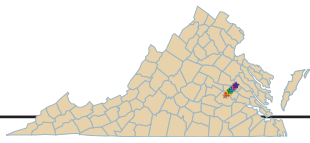
Level 5 (in addition to requirements for previous Levels):

- Use the basic principles of mechanics, electricity, thermodynamics, and fluid dynamics in moderate and advanced applications.
- Understand complex machines and systems, such as the operation of gasoline engines, complex appliances, or an electrical system in a building.

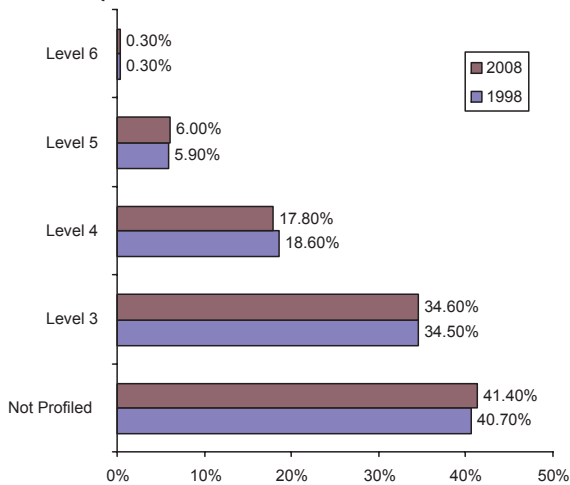
Level 6 (in addition to requirements for previous Levels):

- Use principles of mechanics, electricity, thermodynamics, and fluid dynamics interacting in advanced applications such as air conditioning units.
- Troubleshoot complex systems in which a variety of mechanical, electrical, thermal, or flow faults are potential sources of difficult problems.

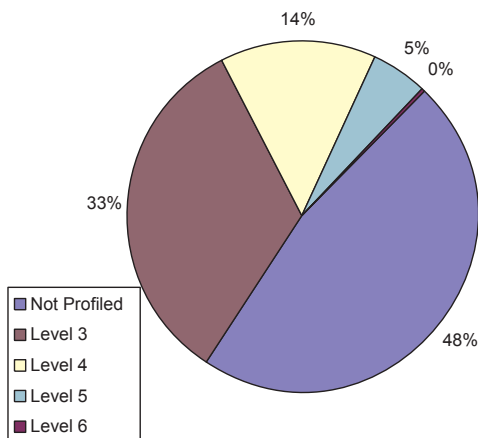
The following figure details the percentage of overall jobs in the Richmond MSA in 1998 and 2008 by required **Applied Technology** skills Level, as determined by the ACT occupation skills profiles. The second figure provides a similar breakdown for projected annual job



openings between 1998 and 2008. These data show that the majority of jobs will require workers with Level 3 Applied Technology skills. The large “Not Profiled” proportion indicates that ACT has not profiled many of these occupations with respect to Applied Technology skills. As a result, it is not possible to include them in the analysis.



Proportion of Jobs in the Richmond MSA by Required Skill Level – Applied Technology



Annual Openings in the Richmond MSA by Required Skill Level – Applied Technology

Listening

The **Listening** portion of the Listening and Writing assessment measures a person’s skill in listening to and conveying information. ACT defines the skills Levels associated with this category as follows.

Level 1:

- Write down a small amount of useful information based on a spoken communication.
- Give clues to the gist of the situation or provide sources of further information, but do not include enough information to give the receiver a correct understanding of the situation described in the message.

Level 2 (in addition to requirements for previous Levels):

- Correctly write down the basic ideas of a spoken message.
- Give a fair amount of useful information, but may miss some of the important details or incorrectly record some of the information.

Level 3 (in addition to requirements for previous Levels):

- Listen to a spoken communication and record messages that are basically correct.
- Present all the primary details and the relationships among them correctly, but may miss one or two pieces of important information.

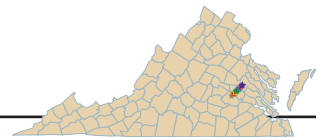
Level 4 (in addition to requirements for previous Levels):

- Accurately convey the central idea of a spoken communication.
- Correctly record all the important information and the relationships among pieces of information, but may miss or incorrectly record some details or include irrelevant information.

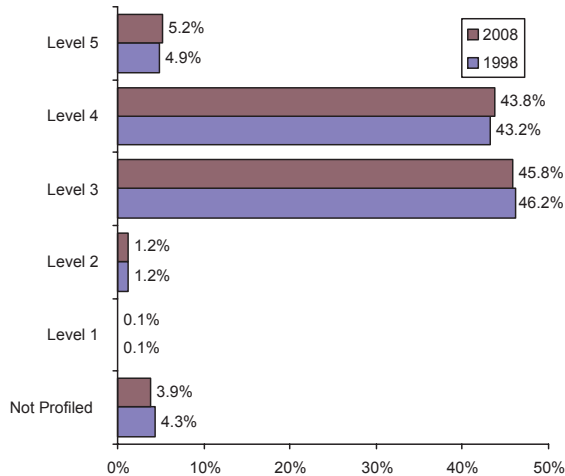
Level 5 (in addition to requirements for previous Levels):

- Correctly record all the important information and the relationships among pieces of information from a spoken communication.
- Use supporting details to convey insight into the particular situation the message involves.

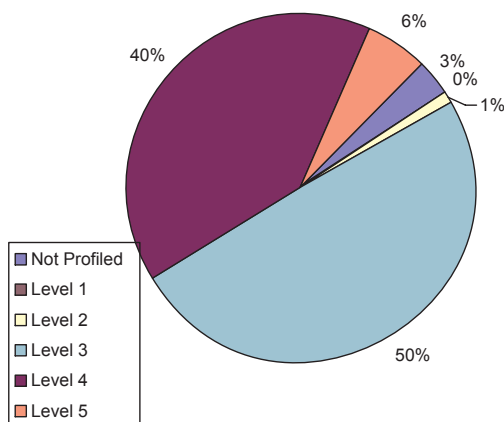
The following figure details the percentage of overall jobs in the Richmond MSA in 1998 and 2008 by required **Listening** skills Level, as determined by the ACT occupation skills profiles. The second figure provides a similar



breakdown for projected annual job openings between 1998 and 2008. These data show that the majority of jobs will require workers with Level 3 and Level 4 **Listening** skills.



Proportion of Jobs in the Richmond MSA by Required Skill Level – Listening



Annual Openings in the Richmond MSA by Required Skill Level – Listening

Locating Information

The **Locating Information** assessment measures a person's skill in using workplace graphics such as diagrams, floor plans, tables, charts, graphs, forms, and instrument gauges. ACT defines the skills Levels associated with this category as follows.

Level 3:

- Find one or two pieces of information in a graphic.
- Fill in one or two pieces of information that are missing from a graphic.

Level 4 (in addition to requirements for previous Levels):

- Find several pieces of information in graphics.
- Summarize and/or compare information and trends in a single graphic.
- Summarize and/or compare information and trends among more than one graphic by determining the relationships among the graphics.

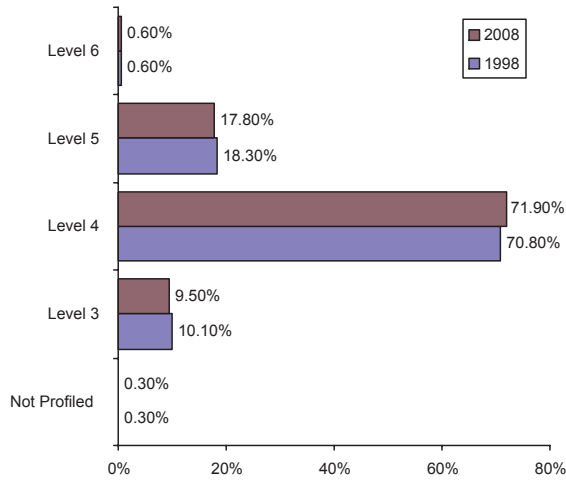
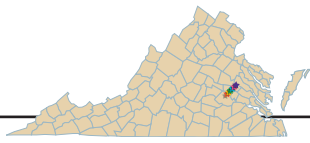
Level 5 (in addition to requirements for previous Levels):

- Summarize and/or compare information and trends in a single graphic.
- Sort through distracting information to summarize and/or compare information and trends presented in more than one workplace graphic.

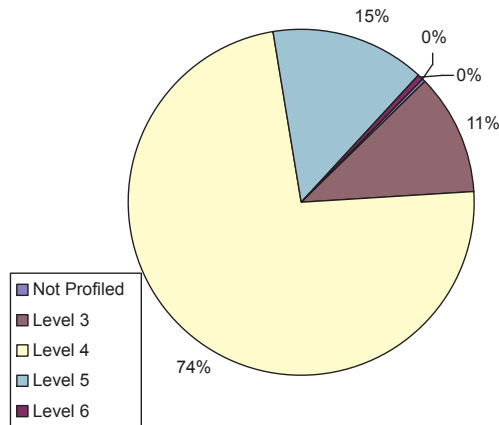
Level 6 (in addition to requirements for previous Levels):

- Draw conclusions from the information presented in very detailed graphics.
- Apply information from these types of graphics to specific situations.
- Analyze data within these types of graphics to make decisions and/or predictions requiring judgments based on the information presented.

The following figure details the percentage of overall jobs in the Richmond MSA in 1998 and 2008 by required **Locating Information** skills Level, as determined by the ACT occupation skills profiles. The second figure provides a similar breakdown for projected annual job openings between 1998 and 2008. These data show that the vast majority of jobs will require workers with Level 4 **Locating Information** skills.



Proportion of Jobs in the Richmond MSA by Required Skill Level – Locating Information



Annual Openings in the Richmond MSA by Required Skill Level – Locating Information

Observation

The **Observation** assessment measures a person's skill at noticing details and paying attention to instructions and demonstrations. The following is a description of the skills Levels associated with this area.

Level 3:

- Pay attention.
- Watch and listen to a strongly cued demonstration or set of instructions.
- Recall a few strongly reinforced details of a process or procedure.

Level 4:

- Sustain focused attention on the demonstrated instructions, process, or procedures.
- Select and attend to important details.
- Recall a few important, moderately reinforced details about the demonstrated process or procedure.

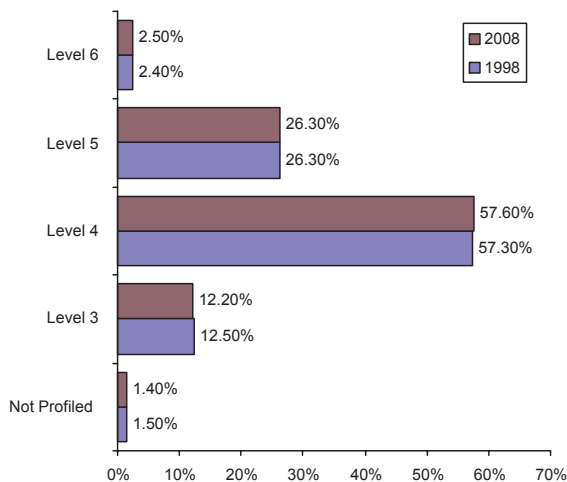
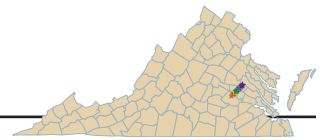
Level 5:

- Focus attention on and recall several important aspects of the information presented.
- Ignore irrelevant background information through selective attention to important details.
- Maintain attention to detail.
- Recall several important details about unfamiliar material.

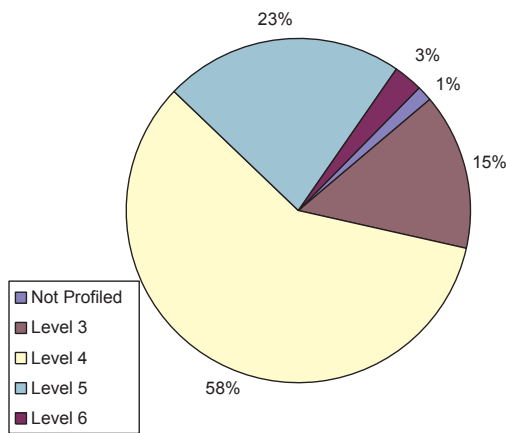
Level 6:

- Notice and remember several details that are relevant to the process or procedure being shown.
- Take in and recall incoming sensory information so it can be used to make predictions, comparisons, or evaluations.
- Visualize how a detail or task fits into the entire process or procedure demonstrated.
- Interpret if-then and cause-effect relationships.

The following figure details the percentage of overall jobs in the Richmond MSA in 1998 and 2008 by required **Observation** skills Level, as determined by the ACT occupation skills profiles. The second figure provides a similar breakdown for projected annual job openings between 1998 and 2008. These data show that the majority of jobs will require workers with Level 4 **Observation** skills.



Proportion of Jobs in the Richmond MSA by Required Skill Level – Observation



Annual Openings in the Richmond MSA by Required Skill Level – Observation

Reading for Information

The **Reading for Information** assessment measures a person's skill in reading and using work-related information including instructions, policies, memos, bulletins, notices, letters, manuals, and governmental regulations. ACT defines the skills Levels associated with this category as follows.

Level 3:

- Identify uncomplicated key concepts and simple details.
- Recognize the proper placement of a step in a sequence of events, or the proper time to perform a task.
- Identify the meaning of a word that is defined within the document.

- Identify the meaning of a simple word that is not defined within the document.
- Recognize the application of instructions given in the document to situations that are also described in the document.

Level 4:

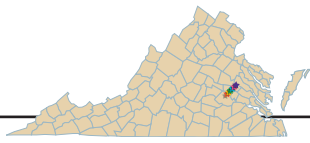
- Identify important details that are less obvious than those in Level 3.
- Recognize the application of more complex instructions, some of which involve several steps, to described situations.
- Recognize cause-effect relationships.
- Determine the meaning of words that are not defined in the document.

Level 5:

- Identify the paraphrased definition of a technical term or jargon that is defined in the document.
- Recognize the application of technical terms or jargon to stated situations.
- Recognize the definition of an acronym that is defined in the document.
- Identify the appropriate definition of a word with multiple meanings.
- Recognize the application of instructions from the document to new situations that are similar to those described in the document.
- Recognize the application of more complex instructions to described situations, including conditionals and procedures with multiple steps.

Level 6:

- Recognize the application of jargon or technical terms to new situations.
- Recognize the application of complex instructions to new situations.
- Recognize, from context, the less common meaning of a word with multiple meanings.
- Generalize from the document situations not described in the document.
- Identify implied details.

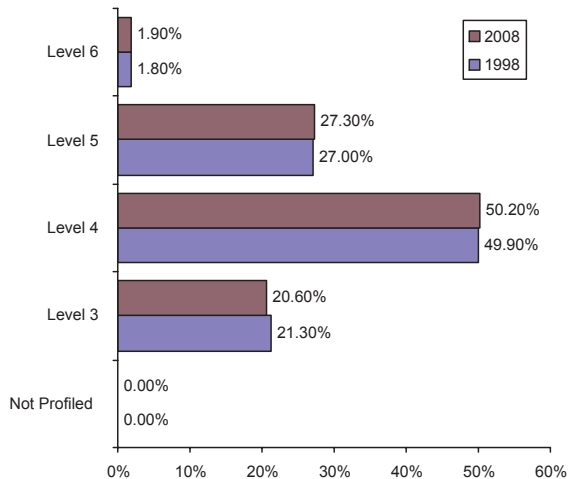


- Explain the rationale behind a procedure, policy, or communication.
- Generalize from the document to a somewhat similar situation.

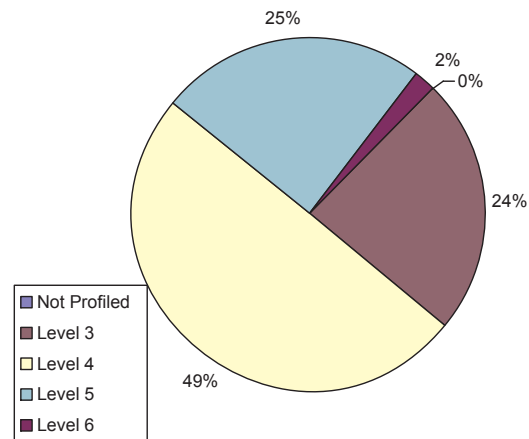
Level 7:

- Recognize the definitions of difficult, uncommon jargon or technical terms, based on the context of the reading materials.
- Figure out the general principles underlying described situations and apply them to situations neither described in nor completely similar to those in the document.

The following figure details the percentage of overall jobs in the Richmond MSA in 1998 and 2008 by required **Reading for Information** skills Level, as determined by the ACT occupation skills profiles. The second figure provides a similar breakdown for projected annual job openings between 1998 and 2008. These data show that the majority of jobs will require workers with Level 4 **Reading for Information** skills.



Proportion of Jobs in the Richmond MSA by Required Skill Level – Reading for Information



Annual Openings in the Richmond MSA by Required Skill Level – Reading for Information

Teamwork

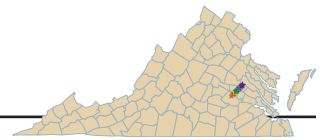
The Teamwork assessment measures a person's skill in choosing behaviors and/or actions that simultaneously support relationships within a team and lead toward the accomplishment of work tasks. The following is a description of the skills Levels associated with this area.

Level 3:

- Identify team goals and ways to work with other team members to accomplish team goals.
- Recognize that a team is having problems finishing a task and identify the cause of those problems.
- Choose actions that actively support the ideas other team members have for accomplishing team goals.
- Recognize the need for trust and dependability in a team environment.

Level 4:

- Identify the organization of tasks and the time schedule that would help the team reach goals efficiently, creatively, and effectively.
- Select approaches that accept direction from other team members in order to complete tasks and to build and keep up good team relations.
- Identify behaviors that show appreciation for the personal and professional qualities of other team members and respect for their diversity.



- Recognize the need for commitment to quality and sensitivity to customers while pursuing the team goal.

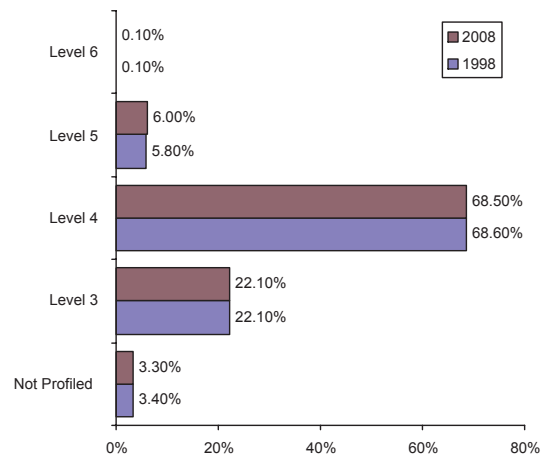
Level 5:

- Identify courses of action that give direction to other team members.
- Determine the best use of team talents to accomplish goals.
- Choose approaches that encourage other team members to improve relationships and/or complete tasks.
- Consider and evaluate the possible effects of alternative behaviors on both team relationships and the completion of tasks.

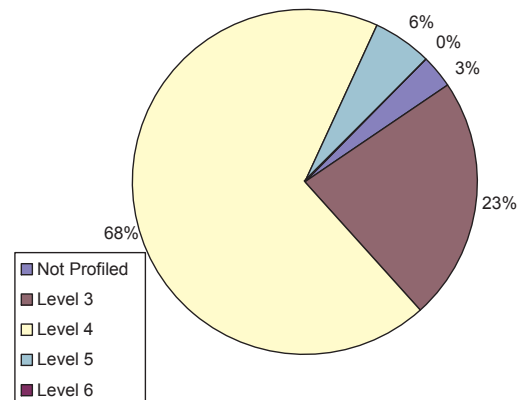
Level 6:

- Identify the focus of team activity and select a new focus if that would help the team meet its goals more effectively.
- Select approaches that show a willingness to give and take direction, as needed, to further team goals (e.g., recognize the organization of team members' tasks that would best serve the larger goals of the team).
- Choose approaches that encourage a team to act as a unit and reach agreement when discussing specific issues.
- Identify actions that would help manage differences of opinion between team members, moving the team toward its goals while valuing and supporting individual diversity.

The following figure details the percentage of overall jobs in the Richmond MSA in 1998 and 2008 by required **Teamwork** skills Level, as determined by the ACT occupation skills profiles. The second figure provides a similar breakdown for projected annual job openings between 1998 and 2008. These data show that the majority of jobs will require workers with Level 4 **Teamwork** skills.



Proportion of Jobs in the Richmond MSA by Required Skill Level – Teamwork



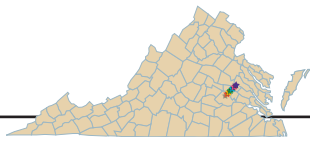
Annual Openings in the Richmond MSA by Required Skill Level – Teamwork

Writing

The **Writing** portion of the Listening and Writing assessment measures a person's skill in writing work-related messages. ACT defines the skills Levels associated with this category as follows.

Level 1:

- Write messages in English that contain a large number of major grammatical, punctuation, spelling, and/or other mechanical errors making the messages very unclear and inconsistent with standard business English.



Level 2:

- Write messages that are generally understandable, but contain many errors in grammar, punctuation, and/or sentence structure making these messages somewhat difficult to comprehend.

Level 3:

- Write messages that are clear, but may include some incomplete sentences and/or errors in grammar and punctuation.

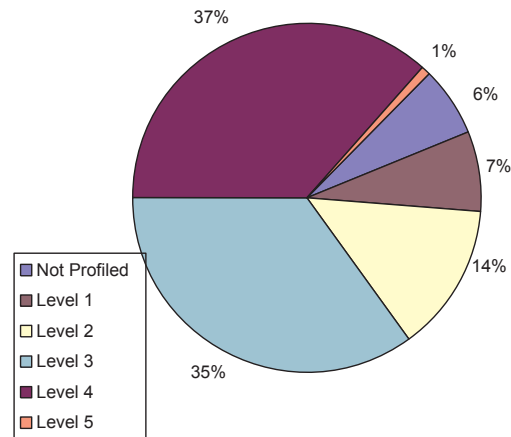
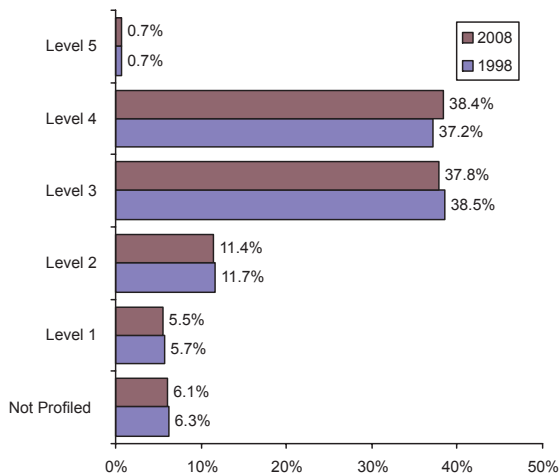
Level 4:

- Write messages that are clear and generally consistent with standard business English, but may contain a few minor errors in grammar and punctuation, and/or the writing style may lack clear organization and appropriate transitions.

Level 5:

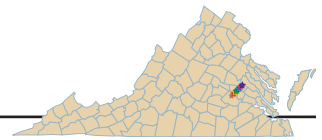
- Write messages that are clear and highly consistent with standard business English.
- Use good sentence structure with a smooth, logical style and no mechanical errors.

The following figure details the percentage of overall jobs in the Richmond MSA in 1998 and 2008 by required **Writing** skills Level, as determined by the ACT occupation skills profiles. The second figure provides a similar breakdown for projected annual job openings between 1998 and 2008. These data show that the majority of jobs will require workers with Level 3 and Level 4 **Writing** skills.



Annual Openings in the Richmond MSA by Required Skill Level – Writing

Proportion of Jobs in the Richmond MSA by Required Skill Level – Writing



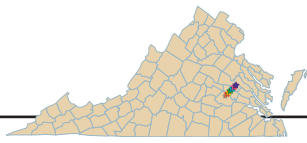
Graduate Data

As a compliment to the prior two sections which detailed the likely demand for skilled workers in the region, this section provides data on the current supply

of graduates within WIA X. These data reflect number of graduates, by institution, and by academic program for the 2002-2003 academic year.¹

| Institution | Program (CIP Code) | Cert. <1 yr. | Cert. >1 <2 yr. | Assoc. | BA | 1st Prof. | MA | PH.D. |
|-------------------------|--|--------------------|-----------------------|--------|----|--------------|----|-------|
| J. Sargeant Reynolds CC | Agricultural Business and Management, General (01.0101) | 0 | 0 | 8 | 0 | 0 | 0 | 0 |
| J. Sargeant Reynolds CC | Radio and Television Broadcasting Tech./Technician (10.0104) | 0 | 7 | 0 | 0 | 0 | 0 | 0 |
| J. Sargeant Reynolds CC | Special Education, Other (13.1099) | 0 | 9 | 14 | 0 | 0 | 0 | 0 |
| J. Sargeant Reynolds CC | Engineering, General (14.0101) | 0 | 0 | 8 | 0 | 0 | 0 | 0 |
| J. Sargeant Reynolds CC | Civil Engineering/Civil Tech./Technician (15.0201) | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| J. Sargeant Reynolds CC | Electrical and Electronic Engin.-Related Technol./Technicians, Other (15.0399) | 0 | 0 | 6 | 0 | 0 | 0 | 0 |
| J. Sargeant Reynolds CC | Engineering-Related Technol./Technicians, Other (15.9999) | 0 | 0 | 4 | 0 | 0 | 0 | 0 |
| J. Sargeant Reynolds CC | Liberal Arts and Sciences/Liberal Studies (24.0101) | 0 | 0 | 25 | 0 | 0 | 0 | 0 |
| J. Sargeant Reynolds CC | Biological and Physical Sciences (30.0101) | 0 | 0 | 29 | 0 | 0 | 0 | 0 |
| J. Sargeant Reynolds CC | Protective Services, Other (43.9999) | 0 | 6 | 27 | 0 | 0 | 0 | 0 |
| J. Sargeant Reynolds CC | Public Administration and Services, Other (44.9999) | 0 | 0 | 12 | 0 | 0 | 0 | 0 |
| J. Sargeant Reynolds CC | Social Sciences, General (45.0101) | 0 | 0 | 79 | 0 | 0 | 0 | 0 |
| J. Sargeant Reynolds CC | Vehicle and Mobile Equipment Mechanics and Repairers, Other (47.0699) | 0 | 8 | 18 | 0 | 0 | 0 | 0 |
| J. Sargeant Reynolds CC | Visual and Performing Arts, Other (50.9999) | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| J. Sargeant Reynolds CC | Dental Hygienist (51.0602) | 0 | 7 | 0 | 0 | 0 | 0 | 0 |
| J. Sargeant Reynolds CC | Dental Laboratory Technician (51.0603) | 0 | 0 | 6 | 0 | 0 | 0 | 0 |
| J. Sargeant Reynolds CC | Mental Health Services, Other (51.1599) | 224 | 0 | 0 | 0 | 0 | 0 | 0 |
| J. Sargeant Reynolds CC | Medical Laboratory Technician (51.1004) | 0 | 0 | 8 | 0 | 0 | 0 | 0 |
| J. Sargeant Reynolds CC | Occupational Therapy Assistant (51.0803) | 0 | 0 | 7 | 0 | 0 | 0 | 0 |
| J. Sargeant Reynolds CC | Respiratory Therapy Technician (51.0908) | 0 | 0 | 15 | 0 | 0 | 0 | 0 |
| J. Sargeant Reynolds CC | Nursing (R.N. Training) (51.1601) | 0 | 20 | 108 | 0 | 0 | 0 | 0 |
| J. Sargeant Reynolds CC | Optical Technician/Assistant (51.1802) | 0 | 0 | 13 | 0 | 0 | 0 | 0 |

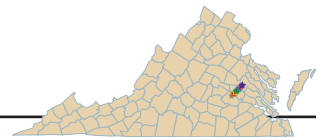
¹ Source: State Council of Higher Education for Virginia, Research Report C1, Completion Summary. Where data for 2002-2003 were not available, 2001-2002 data have been used.



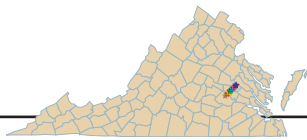
| Institution | Program (CIP Code) | Cert. <1 yr. | Cert. >1 <2 yr. | Assoc. | BA | 1st Prof. | MA | PH.D. |
|-------------------------|--|--------------------|-----------------------|--------|----|--------------|----|-------|
| J. Sargeant Reynolds CC | Business, General (52.0101) | 0 | 3 | 29 | 0 | 0 | 0 | 0 |
| J. Sargeant Reynolds CC | Business Administration and Management, General (52.0201) | 0 | 0 | 78 | 0 | 0 | 0 | 0 |
| J. Sargeant Reynolds CC | Administrative Assistant/Secretarial Science, General (52.0401) | 0 | 9 | 24 | 0 | 0 | 0 | 0 |
| J. Sargeant Reynolds CC | Management Information Systems and Business Data Processing, General (52.1201) | 0 | 0 | 55 | 0 | 0 | 0 | 0 |
| Randolph Macon College | Environmental Science/Studies (03.0102) | 0 | 0 | 0 | 7 | 0 | 0 | 0 |
| Randolph Macon College | Computer and Information Sciences, General (11.0101) | 0 | 0 | 0 | 9 | 0 | 0 | 0 |
| Randolph Macon College | French Language and Literature (16.0901) | 0 | 0 | 0 | 3 | 0 | 0 | 0 |
| Randolph Macon College | Spanish Language and Literature (16.0905) | 0 | 0 | 0 | 3 | 0 | 0 | 0 |
| Randolph Macon College | English Language and Literature, General (23.0101) | 0 | 0 | 0 | 16 | 0 | 0 | 0 |
| Randolph Macon College | Biology, General (26.0101) | 0 | 0 | 0 | 8 | 0 | 0 | 0 |
| Randolph Macon College | Mathematics (27.0101) | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| Randolph Macon College | Religion/Religious Studies (38.0201) | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| Randolph Macon College | Philosophy (38.0101) | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| Randolph Macon College | Physics, General (40.0801) | 0 | 0 | 0 | 4 | 0 | 0 | 0 |
| Randolph Macon College | Chemistry, General (40.0501) | 0 | 0 | 0 | 5 | 0 | 0 | 0 |
| Randolph Macon College | Psychology, General (42.0101) | 0 | 0 | 0 | 25 | 0 | 0 | 0 |
| Randolph Macon College | Social Sciences and History, Other (45.9999) | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| Randolph Macon College | Sociology (45.1101) | 0 | 0 | 0 | 15 | 0 | 0 | 0 |
| Randolph Macon College | International Relations and Affairs (45.0901) | 0 | 0 | 0 | 13 | 0 | 0 | 0 |
| Randolph Macon College | Political Science, General (45.1001) | 0 | 0 | 0 | 11 | 0 | 0 | 0 |
| Randolph Macon College | Economics, General (45.0601) | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| Randolph Macon College | Economics, Other (45.0699) | 0 | 0 | 0 | 39 | 0 | 0 | 0 |
| Randolph Macon College | History, General (45.0801) | 0 | 0 | 0 | 12 | 0 | 0 | 0 |
| Randolph Macon College | Drama/Theater Arts, General (50.0501) | 0 | 0 | 0 | 3 | 0 | 0 | 0 |
| Randolph Macon College | Fine/Studio Arts (50.0702) | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| Randolph Macon College | Arts Management (50.0704) | 0 | 0 | 0 | 5 | 0 | 0 | 0 |
| Randolph Macon College | Art History, Criticism and Conservation (50.0703) | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| Randolph Macon College | Music, General (50.0901) | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| Randolph Macon College | Accounting (52.0301) | 0 | 0 | 0 | 8 | 0 | 0 | 0 |

Education Profile

WIA X



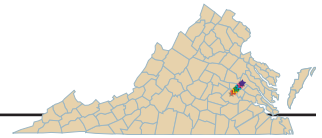
| Institution | Program (CIP Code) | Cert. <1 yr. | Cert. >1 <2 yr. | Assoc. | BA | 1st Prof. | MA | PH.D. |
|-------------|--|--------------------|-----------------------|--------|----|--------------|----|-------|
| U of R | Environmental Science/Studies (03.0102) | 0 | 0 | 0 | 5 | 0 | 0 | 0 |
| U of R | African Studies (05.0101) | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| U of R | American Studies/Civilization (05.0102) | 0 | 0 | 0 | 8 | 0 | 0 | 0 |
| U of R | Asian Studies (05.0103) | 0 | 0 | 0 | 3 | 0 | 0 | 0 |
| U of R | European Studies (05.0106) | 0 | 0 | 0 | 3 | 0 | 0 | 0 |
| U of R | Latin American Studies (05.0107) | 0 | 0 | 0 | 3 | 0 | 0 | 0 |
| U of R | Women's Studies (05.0207) | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| U of R | Area, Ethnic and Cultural Studies, Other (05.9999) | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| U of R | General Retailing Operations (08.0705) | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| U of R | Journalism (09.0401) | 0 | 0 | 0 | 20 | 0 | 0 | 0 |
| U of R | Information Sciences and Systems (11.0401) | 0 | 10 | 2 | 17 | 0 | 0 | 0 |
| U of R | Computer and Information Sciences, General (11.0101) | 0 | 0 | 0 | 15 | 0 | 0 | 0 |
| U of R | General Teacher Education, Other (13.1299) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| U of R | Physical Education Teaching and Coaching (13.1314) | 0 | 0 | 0 | 3 | 0 | 0 | 0 |
| U of R | Classics and Classical Languages and Literatures (16.1201) | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| U of R | Spanish Language and Literature (16.0905) | 0 | 0 | 0 | 17 | 0 | 0 | 0 |
| U of R | German Language and Literature (16.0501) | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| U of R | French Language and Literature (16.0901) | 0 | 0 | 0 | 4 | 0 | 0 | 0 |
| U of R | Law (LL.B., J.D.) (22.0101) | 0 | 0 | 0 | 0 | 163 | 0 | 0 |
| U of R | Paralegal/Legal Assistant (22.0103) | 0 | 10 | 1 | 1 | 0 | 0 | 0 |
| U of R | English Language and Literature, General (23.0101) | 0 | 0 | 0 | 36 | 0 | 2 | 0 |
| U of R | Speech and Rhetorical Studies (23.1001) | 0 | 0 | 0 | 34 | 0 | 0 | 0 |
| U of R | Liberal Arts and Sciences/Liberal Studies (24.0101) | 0 | 1 | 3 | 23 | 0 | 15 | 0 |
| U of R | Biology, General (26.0101) | 0 | 0 | 0 | 54 | 0 | 1 | 0 |
| U of R | Biochemistry (26.0202) | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| U of R | Mathematics (27.0101) | 0 | 0 | 0 | 5 | 0 | 0 | 0 |
| U of R | Multi/Interdisciplinary Studies, Other (30.9999) | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| U of R | Religion/Religious Studies (38.0201) | 0 | 0 | 0 | 3 | 0 | 0 | 0 |



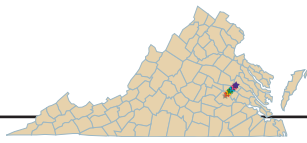
| Institution | Program (CIP Code) | Cert. <1 yr. | Cert. >1 <2 yr. | Assoc. | BA | 1st Prof. | MA | PH.D. |
|-------------|---|--------------------|-----------------------|--------|-----|--------------|----|-------|
| U of R | Philosophy (38.0101) | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| U of R | Chemistry, General (40.0501) | 0 | 0 | 0 | 9 | 0 | 0 | 0 |
| U of R | Physics, General (40.0801) | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| U of R | Psychology, General (42.0101) | 0 | 0 | 0 | 41 | 0 | 5 | 0 |
| U of R | Criminal Justice Studies (43.0104) | 0 | 0 | 0 | 7 | 0 | 0 | 0 |
| U of R | Community Organization, Resources and Services (44.0201) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| U of R | History, General (45.0801) | 0 | 0 | 0 | 23 | 0 | 4 | 0 |
| U of R | Economics, General (45.0601) | 0 | 0 | 0 | 19 | 0 | 0 | 0 |
| U of R | International Economics (45.0605) | 0 | 0 | 0 | 8 | 0 | 0 | 0 |
| U of R | Sociology (45.1101) | 0 | 0 | 0 | 28 | 0 | 0 | 0 |
| U of R | International Relations and Affairs (45.0901) | 0 | 0 | 0 | 10 | 0 | 0 | 0 |
| U of R | Political Science, General (45.1001) | 0 | 0 | 0 | 69 | 0 | 0 | 0 |
| U of R | Music, General (50.0901) | 0 | 0 | 0 | 5 | 0 | 0 | 0 |
| U of R | Art History, Criticism and Conservation (50.0703) | 0 | 0 | 0 | 9 | 0 | 0 | 0 |
| U of R | Fine/Studio Arts (50.0702) | 0 | 0 | 0 | 8 | 0 | 0 | 0 |
| U of R | Drama/Theater Arts, General (50.0501) | 0 | 0 | 0 | 8 | 0 | 0 | 0 |
| U of R | Health and Medical Administrative Services, Other (51.0799) | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| U of R | Business Administration and Management, General (52.0201) | 0 | 0 | 0 | 208 | 0 | 75 | 0 |
| U of R | Accounting (52.0301) | 0 | 0 | 0 | 46 | 0 | 0 | 0 |
| U of R | Human Resources Management (52.1001) | 0 | 5 | 3 | 20 | 0 | 0 | 0 |
| U of R | Organizational Behavior Studies (52.1003) | 0 | 6 | 0 | 46 | 0 | 0 | 0 |
| VCU | Mass Communications (09.0403) | 0 | 0 | 0 | 110 | 0 | 56 | 0 |
| VCU | Computer and Information Sciences, General (11.0101) | 0 | 0 | 0 | 32 | 0 | 12 | 0 |
| VCU | Information Sciences and Systems (11.0401) | 0 | 0 | 0 | 111 | 0 | 12 | 0 |
| VCU | Special Education, General (13.1001) | 0 | 0 | 0 | 1 | 0 | 26 | 0 |
| VCU | Education Administration and Supervision, General (13.0401) | 0 | 0 | 0 | 0 | 0 | 42 | 0 |
| VCU | Curriculum and Instruction (13.0301) | 0 | 0 | 0 | 0 | 0 | 24 | 0 |
| VCU | Education, General (13.0101) | 0 | 0 | 0 | 0 | 0 | 77 | 14 |
| VCU | Health Teacher Education (13.1307) | 0 | 0 | 0 | 28 | 0 | 0 | 0 |

Education Profile

WIA X



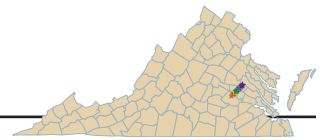
| Institution | Program (CIP Code) | Cert. <1 yr. | Cert. >1 <2 yr. | Assoc. | BA | 1st Prof. | MA | PH.D. |
|-------------|---|--------------------|-----------------------|--------|----|--------------|----|-------|
| VCU | Art Teacher Education (13.1302) | 0 | 0 | 0 | 39 | 0 | 5 | 0 |
| VCU | Reading Teacher Education (13.1315) | 0 | 0 | 0 | 0 | 0 | 5 | 0 |
| VCU | Physical Education Teaching and Coaching (13.1314) | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| VCU | Adult and Continuing Teacher Education (13.1201) | 0 | 0 | 0 | 0 | 0 | 11 | 0 |
| VCU | Counselor Education Counseling and Guidance Services (13.1101) | 0 | 0 | 0 | 0 | 0 | 25 | 0 |
| VCU | Bioengineering and Biomedical Engineering (14.0501) | 0 | 0 | 0 | 22 | 0 | 10 | 1 |
| VCU | Chemical Engineering (14.0701) | 0 | 0 | 0 | 14 | 0 | 0 | 0 |
| VCU | Electrical, Electronics and Communication Engineering (14.1001) | 0 | 0 | 0 | 23 | 0 | 0 | 0 |
| VCU | Mechanical Engineering (14.1901) | 0 | 0 | 0 | 26 | 0 | 0 | 0 |
| VCU | Engineering, Other (14.9999) | 0 | 0 | 0 | 0 | 0 | 5 | 2 |
| VCU | Foreign Languages and Literatures, General (16.0101) | 0 | 0 | 0 | 24 | 0 | 0 | 0 |
| VCU | Gerontological Services (19.0705) | 0 | 0 | 0 | 0 | 0 | 6 | 0 |
| VCU | English Creative Writing (23.0501) | 0 | 0 | 0 | 0 | 0 | 6 | 0 |
| VCU | English Language and Literature, General (23.0101) | 0 | 0 | 0 | 86 | 0 | 14 | 0 |
| VCU | General Studies (24.0102) | 0 | 0 | 0 | 49 | 0 | 0 | 0 |
| VCU | Microbiology/Bacteriology (26.0501) | 0 | 0 | 0 | 0 | 0 | 2 | 6 |
| VCU | Anatomy (26.0601) | 0 | 0 | 0 | 0 | 0 | 4 | 3 |
| VCU | Genetics, Plant and Animal (26.0613) | 0 | 0 | 0 | 0 | 0 | 2 | 2 |
| VCU | Biostatistics (26.0615) | 0 | 0 | 0 | 0 | 0 | 2 | 3 |
| VCU | Biochemistry (26.0202) | 0 | 0 | 0 | 0 | 0 | 2 | 5 |
| VCU | Biology, General (26.0101) | 0 | 0 | 0 | 83 | 0 | 5 | 0 |
| VCU | Physiology, Human and Animal (26.0706) | 0 | 0 | 0 | 0 | 0 | 6 | 5 |
| VCU | Pathology, Human and Animal (26.0704) | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| VCU | Pharmacology, Human and Animal (26.0705) | 0 | 0 | 0 | 0 | 0 | 3 | 5 |
| VCU | Mathematics (27.0101) | 0 | 0 | 0 | 25 | 0 | 8 | 0 |
| VCU | Multi/Interdisciplinary Studies, Other (30.9999) | 0 | 0 | 0 | 0 | 0 | 37 | 0 |
| VCU | Parks, Recreation and Leisure Studies (31.0101) | 0 | 0 | 0 | 31 | 0 | 50 | 0 |



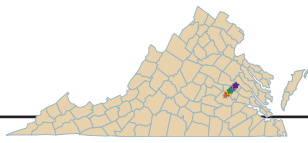
| Institution | Program (CIP Code) | Cert. <1 yr. | Cert. >1 <2 yr. | Assoc. | BA | 1st Prof. | MA | PH.D. |
|-------------|--|--------------------|-----------------------|--------|-----|--------------|-----|-------|
| VCU | Religion/Religious Studies (38.0201) | 0 | 0 | 0 | 22 | 0 | 0 | 0 |
| VCU | Philosophy (38.0101) | 0 | 0 | 0 | 10 | 0 | 0 | 0 |
| VCU | Chemistry, General (40.0501) | 0 | 0 | 0 | 20 | 0 | 4 | 8 |
| VCU | Physical Sciences, General (40.0101) | 0 | 0 | 0 | 19 | 0 | 0 | 0 |
| VCU | Physics, General (40.0801) | 0 | 0 | 0 | 8 | 0 | 5 | 0 |
| VCU | Psychology, General (42.0101) | 0 | 0 | 0 | 231 | 0 | 11 | 19 |
| VCU | Criminal Justice/Law Enforcement Administra- tion (43.0103) | 0 | 0 | 0 | 107 | 0 | 43 | 0 |
| VCU | Forensic Tech./Technician (43.0106) | 0 | 0 | 0 | 11 | 0 | 0 | 0 |
| VCU | Social Work (44.0701) | 0 | 0 | 0 | 34 | 0 | 184 | 8 |
| VCU | Public Administration (44.0401) | 0 | 0 | 0 | 0 | 0 | 37 | 6 |
| VCU | History, General (45.0801) | 0 | 0 | 0 | 49 | 0 | 8 | 0 |
| VCU | Urban Affairs/Studies (45.1201) | 0 | 0 | 0 | 20 | 0 | 12 | 0 |
| VCU | Sociology (45.1101) | 0 | 0 | 0 | 45 | 0 | 5 | 0 |
| VCU | Political Science, General (45.1001) | 0 | 0 | 0 | 52 | 0 | 0 | 0 |
| VCU | Music - General Performance (50.0903) | 0 | 0 | 0 | 34 | 0 | 12 | 0 |
| VCU | Painting (50.0708) | 0 | 0 | 0 | 31 | 0 | 0 | 0 |
| VCU | Sculpture (50.0709) | 0 | 0 | 0 | 31 | 0 | 1 | 0 |
| VCU | Fine Arts and Art Studies, Other (50.0799) | 0 | 0 | 0 | 0 | 0 | 18 | 0 |
| VCU | Art History, Criticism and Conservation (50.0703) | 0 | 0 | 0 | 13 | 0 | 12 | 3 |
| VCU | Fashion Design and Illustration (50.0407) | 0 | 0 | 0 | 59 | 0 | 0 | 0 |
| VCU | Drama/Theater Arts, General (50.0501) | 0 | 0 | 0 | 39 | 0 | 12 | 0 |
| VCU | Photography (50.0605) | 0 | 0 | 0 | 22 | 0 | 0 | 0 |
| VCU | Design and Visual Communications (50.0401) | 0 | 0 | 0 | 98 | 0 | 19 | 0 |
| VCU | Crafts, Folk Art and Artisanry (50.0201) | 0 | 0 | 0 | 16 | 0 | 0 | 0 |
| VCU | Dance (50.0301) | 0 | 0 | 0 | 10 | 0 | 0 | 0 |
| VCU | Interior Design (50.0408) | 0 | 0 | 0 | 42 | 0 | 0 | 0 |
| VCU | Nursing (R.N. Training) (51.1601) | 0 | 0 | 0 | 211 | 0 | 0 | 0 |
| VCU | Nursing Science (Post-R.N.) (51.1608) | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| VCU | Nursing, Other (51.1699) | 0 | 0 | 0 | 0 | 0 | 69 | 0 |
| VCU | Nursing Anesthetist (Post-R.N.) (51.1604) | 0 | 0 | 0 | 0 | 0 | 21 | 0 |
| VCU | Medicine (M.D.) (51.1201) | 0 | 0 | 0 | 0 | 163 | 0 | 0 |

Education Profile

WIA X

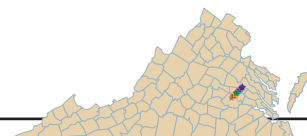


| Institution | Program (CIP Code) | Cert. <1 yr. | Cert. >1 <2 yr. | Assoc. | BA | 1st Prof. | MA | PH.D. |
|-------------|---|--------------------|-----------------------|--------|-----|--------------|-----|-------|
| VCU | Medical Genetics (51.1306) | 0 | 0 | 0 | 0 | 0 | 5 | 0 |
| VCU | Medical Technology (51.1005) | 0 | 0 | 0 | 14 | 0 | 6 | 0 |
| VCU | Health System/Health Services Administration (51.0701) | 0 | 0 | 0 | 0 | 0 | 31 | 2 |
| VCU | Dentistry (D.D.S., D.M.D.) (51.0401) | 0 | 0 | 0 | 0 | 80 | 0 | 0 |
| VCU | Dental Clinical Sciences/Graduate Dentistry (M.S., Ph.D.) (51.0501) | 0 | 0 | 0 | 0 | 0 | 16 | 0 |
| VCU | Dental Hygienist (51.0602) | 0 | 0 | 0 | 16 | 0 | 0 | 0 |
| VCU | Health and Medical Diagnostic and Treatment Services, Other (51.0999) | 0 | 0 | 0 | 12 | 0 | 0 | 0 |
| VCU | Health Professions and Related Sciences, Other (51.9999) | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| VCU | Vocational Rehabilitation Counseling (51.2310) | 0 | 0 | 0 | 0 | 0 | 28 | 0 |
| VCU | Rehabilitation/Therapeutic Services, Other (51.2399) | 0 | 0 | 0 | 0 | 0 | 9 | 0 |
| VCU | Physical Therapy (51.2308) | 0 | 0 | 0 | 0 | 0 | 5 | 0 |
| VCU | Pharmacy, Other (51.2099) | 0 | 0 | 0 | 0 | 0 | 6 | 7 |
| VCU | Occupational Therapy (51.2306) | 0 | 0 | 0 | 1 | 0 | 23 | 0 |
| VCU | Pharmacy (B. Pharm., Pharm.D.) (51.2001) | 0 | 0 | 0 | 0 | 105 | 0 | 0 |
| VCU | Public Health, General (51.2201) | 0 | 0 | 0 | 0 | 0 | 18 | 0 |
| VCU | Accounting (52.0301) | 0 | 0 | 0 | 49 | 0 | 1 | 0 |
| VCU | Business/Managerial Economics (52.0601) | 0 | 0 | 0 | 25 | 0 | 2 | 0 |
| VCU | Business Administration and Management, General (52.0201) | 0 | 0 | 0 | 196 | 0 | 116 | 8 |
| VCU | International Business (52.1101) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| VCU | Business Marketing and Marketing Management (52.1401) | 0 | 0 | 0 | 46 | 0 | 0 | 0 |
| VCU | Taxation (52.1601) | 0 | 0 | 0 | 0 | 0 | 5 | 0 |
| VCU | Business, General (52.0101) | 0 | 0 | 0 | 0 | 0 | 30 | 0 |



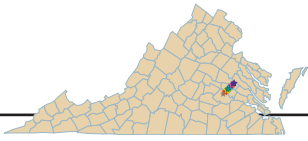
WIA X Training Providers List

| Provider Name | Contact Information | List of Programs/Courses |
|---|--|------------------------------------|
| Alliance for Seniors Inc | 6966 B Forrest Hill Ave Richmond VA 23225 Phone: 804-323-6900 | Nurse Aide |
| Asher Comprehensive Training Center Inc | 180 East Belt Blvd-Suite 200 Richmond VA 23224-1203 Phone: 804-233-9494 Email: shmah3@aol.com | Nurse Aide |
| J and S Hair Academy | 121 Wyck Street-Suite 209 Richmond VA 23225-5633 Phone: 804-437-7326 | Cosmetology |
| J Sergeant Reynolds Community College | PO Box 85622 1651 East Parham Road Richmond VA 23285-5622 Phone: 804-371-3410 Email: cpetersen@jsr.cc.va.us Web: www.jsr.cc.va.us | College Courses |
| Johnsons Beauty Academy | 402 North Second Street Richmond VA 23219 Phone: 804-649-2572 Email: johnsonbty@aol.com | Cosmetology and Salon Fundamentals |
| Moseley-Flint Schools of Real Estate Inc. | 8543 Mayland Dr Richmond VA 23219 Phone: 804-969-4292 Email: mfsre@erols.com | Fundamentals of Appraisal |
| Richmond Barber School | 1503 Hull Street Richmond VA 23224 Phone: 434-232-5410 | Barbering |
| Richmond Public Schools - Nursing Department | 2020 Westwood Ave Richmond VA 23230-4123 Phone: 804-780-6076 | Practical Nursing |
| TECHEAD | 111 North 17th Street Richmond VA 23219 Phone: 804-782-6971 Email: philise@techead.com Web: www.techead.com | Computer Applications |
| The Beauty Institute of Richmond School of Cosmetology | 6 North Sixth Street Richmond VA 23219 Phone: 804-783-0780 Email: t.tiffany73@aol.com | Cosmetology |
| University of Richmond | Sarah Brunet Hall, Room 113 Richmond VA 23173 Phone: 804-287-6562 Email: skalligh@richmond.edu Web: www.richmond.edu | College Courses |
| Virginia Commonwealth University | 821 W. Franklin Street P.O. Box 85020 Richmond VA 23261-5020 Phone: 804-828-1222 Web: www.vcu.edu | College Courses |



WIA X Training Providers List (continued)

| Provider Name | Contact Information | List of Programs/Courses |
|-----------------------|--|--|
| Virginia Forklift Inc | PO Box 24307 1501 Jefferson Davis Highway Richmond VA 23224 Phone: 804-230-2560 Email: wes@vaforklift.com Web: www.vaforklift.com | Forklift Operator Forklift Technician |



V. Summary and Conclusions

Population trends in WIA X, as in other parts of the United States, are currently dominated by the aging of the baby-boom generation. Between 2000 and 2010 this demographic phenomena will cause a major increase in the 55 and over population within the region. The net result of this increase will be a significant “graying” of the overall population.

One implication of this is that younger entry-level workers will be in short supply. This should elevate the importance of workforce services in facilitating the efficient and effective use of existing labor resources by getting younger trained workers into the workforce, and retraining or upgrading the skills of older displaced workers.

Another significant trend within WIA X has to do with increasing employment in Services. It can be anticipated that employment increases in the Service sector – specifically, health care and education – will drive much of the demand for trained workers between 1998 and 2008.



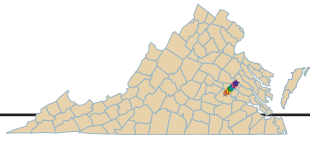
Average Weekly Wage

Richmond city

| INDUSTRY SECTOR | 2002 (\$) |
|-----------------|-----------|
| ****TOTAL**** | 798 |
| AGRICULTURE | 339 |
| MINING | D |
| UTILITIES | D |
| CONSTRUCTION | 758 |
| MANUFACTURING | 994 |
| TRADE-WHOLESALE | 850 |
| TRADE-RETAIL | 470 |
| TRANSPORTATION | 704 |
| INFORMATION | 1,016 |
| FINANCE/INSURNC | 1,269 |
| REAL ESTATE | 689 |
| PROF/TECH SERV | 1,166 |
| MANAGMNT OF COS | 1,475 |
| ADMIN/WASTE SER | 453 |
| EDUCATIONAL SER | 645 |
| HEALTH CARE | 638 |
| ARTS/ENTER/REC | 330 |
| ACCOMMDATN/FOOD | 254 |
| OTHER SERVICES | 491 |
| GOVT TOTAL | 781 |
| GOVT FEDERAL | 939 |
| GOVT STATE | 772 |
| GOVT LOCAL | 700 |
| UNCLASSIFIED | 0 |

"D" indicates nondisclosed data.

Source: Covered Employment and Wage data, Annualized 2002.

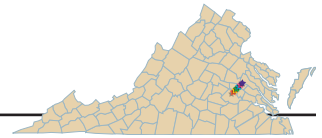


Unemployment Rate Trends

Richmond city

| Year | Rate |
|------|------|
| 2002 | 6.2 |
| 2001 | 5.0 |
| 2000 | 2.9 |
| 1999 | 3.5 |
| 1998 | 3.9 |

| Year | Rate |
|------|------|
| 1997 | 5.0 |
| 1996 | 5.5 |
| 1995 | 5.4 |
| 1994 | 6.0 |
| 1993 | 6.6 |



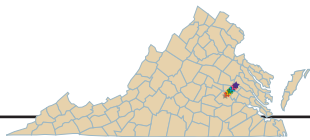
Population by Age

Richmond city

| | 1990 | 2000 | 2010 | 2020 | 2030 |
|-------|---------|---------|---------|---------|---------|
| 0-14 | 36,004 | 36,854 | 31,965 | 29,306 | 27,097 |
| 15-24 | 33,153 | 32,256 | 29,085 | 27,078 | 27,630 |
| 25-34 | 39,039 | 32,871 | 27,366 | 24,898 | 24,183 |
| 35-44 | 29,001 | 29,841 | 26,048 | 22,673 | 21,141 |
| 45-54 | 17,440 | 24,985 | 27,346 | 25,104 | 22,482 |
| 55+ | 48,419 | 40,983 | 49,790 | 60,541 | 67,067 |
| Total | 203,056 | 197,790 | 191,600 | 189,600 | 189,600 |

2010 - 2030 data are projections.

Source: Virginia Employment Commission 8/03, U.S. Census Bureau.



Employment by Industry

Richmond city

| INDUSTRY SECTOR | 2002 |
|-----------------|---------|
| ****TOTAL**** | 162,072 |
| AGRICULTURE | 94 |
| MINING | D |
| UTILITIES | D |
| CONSTRUCTION | 7,196 |
| MANUFACTURING | 13,810 |
| TRADE-WHOLESALE | 5,667 |
| TRADE-RETAIL | 9,181 |
| TRANSPORTATION | 4,784 |
| INFORMATION | 3,831 |
| FINANCE/INSURNC | 6,591 |
| REAL ESTATE | 2,027 |
| PROF/TECH SERV | 10,119 |
| MANAGMNT OF COS | 8,882 |
| ADMIN/WASTE SER | 9,792 |
| EDUCATIONAL SER | 2,685 |
| HEALTH CARE | 13,158 |
| ARTS/ENTER/REC | 1,948 |
| ACCOMMDATN/FOOD | 8,067 |
| OTHER SERVICES | 6,515 |
| GOVT TOTAL | 46,726 |
| GOVT FEDERAL | 7,017 |
| GOVT STATE | 28,666 |
| GOVT LOCAL | 11,043 |
| UNCLASSIFIED | 0 |

"D" indicates nondisclosed data.

Source: Covered Employment and Wage data, Annualized 2002.